The Builder.

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ILLUSTRATIONS.

Compton Wynyates, Warwickshire: Drawings by Mr. Heber Rimmer, Awarded the Silver Medal of the Royal Institute of British Architects:—

Perspective View ..... *Double-Page Ink-Photo.*
West and South Elevations ..... *Single-Page Ink-Photo.*
West and South Elevation of Courtyard, and Profiles of Mouldings ..... *Single-Page Ink-Photo.*
End of Great Hall; Large Gable and Tower of West Elevation ..... *Double-Page Ink-Photo.*
Porch and Bay-Window ..... *Single-Page Ink-Photo.*
Plan and Chimneys ..... *Single-Page Ink-Photo.*

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Railway Rates.

THE classifications and schedules of rates recently submitted to Parliament by the Board of Trade, under the Railway and Canal Traffic Act, present a remarkable contrast to the original proposals made by the railway companies. The latter raised a storm of hostility, and have been considerably modified from time to time by their promoters, many concessions having resulted from the representations made by the traders during the Board of Trade inquiry. Thus, many articles now appear in lower classes than those in which it was originally proposed to place them; but, apart from the reductions thus involved, there are wide differences in the charges applicable to the various classes, and also in the miscellaneous regulations. Several of the proposals which have undergone such alterations have been dealt with in our "Notes" during the interval which has elapsed since they were first made, but it may be convenient at the present juncture to notice the final form in which they have been submitted to Parliament. As the Provisional Orders Bills, in which these proposed rates and charges are incorporated, passed the second reading in the House of Commons on the 6th inst., they will next be considered in detail by a Grand Committee consisting of members of both Houses.

The rates per ton per mile are all lower than those proposed by the railway companies, as may be seen by comparing the accompanying table with that given in our issue of March 2, 1889 (p. 159), when the railway Bills first made their appearance. A table of comparative rates is also appended, worked out from the 1889 schedule of the London and North-Western and the present Board of Trade schedule applying to that Company, which shows at a glance the effect of the respective proposals. It may be mentioned that the rates finally adopted,—as given below,—vary somewhat from those contained in the draft schedules submitted by the Board to the Railway Company's Association last July. It will be observed that the London and North-Western plan was to charge so much per ton per mile for the first twenty miles, so much for the next twenty miles, and so on; while the Board of Trade propose a certain sum per ton per mile "for any distance not exceeding twenty miles," a lower sum for any distance between twenty miles and fifty, &c. It should be noted that nothing is included in the tables for cartage, this being an independent service, and chargeable accordingly.

A reference to the schedules of 1889 shows that an increased sum was claimed for terminals at certain large towns; but this has been abandoned, and the additions thus proposed have not been included in the accompanying statement. These additional amounts ranged from 2d. to 1s. 6d. for each end. The suggestion thrown out by the Board as to separate rates for truck and train loads not having been adopted by the railway companies, the former have themselves prepared schedules of reduced charges to apply to consignments of 10 tons and upwards (for goods in the four lowest classes), with still further reductions for lots of not less than 250 tons. The abatements in each case are small—not more than ·05d. per ton per mile.

In the important matter of "smalls," the companies had claimed a right to charge what they pleased for all consignments of less than 560 lbs., but the Board of Trade have placed the limit at 3 cwt., the maximum addition to the ordinary charge varying from 6d. to 2s. per consignment, according to the tonnage rate. These additional charges, we notice, amount to just about double those now made on "smalls," so that, although the limit is reduced from 5 cwt. to 3 cwt., the railway companies are given additional charging powers by way of compensation. Various proposals were made with regard to "returned empties," which, at present, are charged in accordance with a fixed mileage scale agreed upon by the railway companies some years ago, without any reference (with few exceptions) to the goods they had contained in the first instance. Most of the companies had placed them in the fifth (or highest) class, but the following somewhat peculiar clause has been adopted by the Board of Trade:—

"Returned empties shall be deemed to be included in the same class of the classification as comprises the merchandise which was carried in them when full; but the maximum rates and charges in respect of such returned empties shall not exceed 75 per cent. of the maximum rates and charges for the said class of merchandise."

The railway companies had proposed to treat all unclassified articles as being in Class 5, but the Board of Trade suggest Class 3, and have also re-modelled the unreasonable clauses relating to fractions. The "short distance" clause now stands as follows:—

"Where merchandise is conveyed for an entire distance which does not exceed, in the case of merchandise in respect of which a station terminal is chargeable at each end of the transit, three miles, or, in the case of merchandise not so chargeable, six miles, the company may make the charges for conveyance authorised by this schedule as for three miles or six miles respectively."

This has been the subject of much contention, and the present proposal is a gain for the traders to a certain extent, as compared with that of the railway companies. The latter was:—

"For any distance not exceeding six miles the company may demand the rates authorised by this schedule as for six miles."

Short and apparently simple as are the clauses relating to station and service terminals, they will probably be the subject of further discussion, there being still a very great unwillingness on the part of traders to recognise the former of these two charges. They object, for very good reasons, to admit the legality of the particular decision which is supposed to have influenced the Board of Trade in recommending that it should be authorised. Sir Alfred (then Mr.) Hickman, in a letter to Lord Balfour of Burleigh, dated December 20 last puts the case thus:—

"The London and North-Western Amalgamation Act, 1846, is essentially different from the London, Brighton, and South Coast Act, under which the Divisional Court decided that station terminals could be charged; and it is submitted that, reading fairly the judgment of Mr. Justice Wills, it must be inferred that if Hall's case had been under the London and North-Western Act, the decision would have been different. Traders have endeavoured to test the latter Company's powers unavailingly, because the Company have refunded the charges made for terminals, and refused to fight. It should, therefore, be taken as a basis for discussion that at present there is no power to make any charge for station terminals on those parts of the London

TABLE OF MAXIMUM RATES PROPOSED BY THE BOARD OF TRADE TO APPLY TO THE L. & N.-W. RAILWAY.

Class.	Maximum Rates for Conveyance.					Maximum Terminals.					Class.
	For any distance not exceeding 20 miles.	For any distance exceeding 20 miles, but not exceeding 50 miles.	For any distance exceeding 50 miles, but not exceeding 100 miles.	For any distance exceeding 100 miles, but not exceeding 150 miles.	For any distance exceeding 150 miles.	Station Terminal at each End.	Service Terminals.				
							Loading.	Unloading.	Covering.	Uncovering.	
	per ton per mile.	per ton per mile.	per ton per mile.	per ton per mile.	per ton per mile.	per ton.	per ton.	per ton.	per ton.	per ton.	
	d.	d.	d.	d.	d.	s. d.	s. d.	s. d.	d.	d.	
A.	0·90	0·85	0·75	0·65	0·50	0 3	...	...	...	...	A.
B.	1·25	1·15	1·00	0·85	0·75	0 6	...	...	...	...	B.
C.	1·80	1·70	1·45	1·25	1·00	1 0	0 3	0 3	1	1	C.
1.	2·20	2·05	1·80	1·55	1·30	1 6	0 5	0 5	1·50	1·50	1.
2.	2·65	2·50	2·20	2·00	1·60	1 6	0 8	0 8	2	2	2.
3.	3·10	2·90	2·50	2·10	1·95	1 6	1 0	1 0	2	2	3.
4.	3·60	3·45	3·00	2·55	2·25	1 6	1 4	1 4	3	3	4.
5.	4·30	4·05	3·65	3 25	3·00	1 6	1 8	1 8	4	4	5.

COMPARATIVE TABLE OF PROPOSED MAXIMUM RATES.

Distance.		A	B	C	1	2	3	4	5
		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
20 Miles	L. & N. W.	2 8	4 10	7 2	10 0	10 11	11 10	13 8	16 4
	Board of Trade	2 0	3 1	5 8	7 9	9 1	10 6	12 2	14 2
50 Miles	L. & N. W.	5 2	8 5	12 0	15 10	17 7	19 9	22 10	27 2
	Board of Trade	4 1	5 10	9 9	12 8	15 1	17 5	20 7	23 11
100 Miles	L. & N. W.	7 3	12 9	17 7	22 6	26 4	30 7	35 9	42 2
	Board of Trade	6 9	9 4	14 9	19 1	23 0	26 2	31 2	37 5
200 Miles	L. & N. W.	13 6	21 1	28 0	35 0	43 0	51 5	60 9	71 4
	Board of Trade	8 10	13 6	19 4	25 9	31 4	37 10	43 8	57 0

and North-Western system governed by the Act mentioned."

Sir A. Hickman is a strong and uncompromising champion of the traders' cause in this controversy, and has taken a very prominent part in bringing it before the attention of Parliament and the public.

Mr. P. Stanhope, M.P., took up the same position in the debate on Friday. In moving the rejection of the Bill on account of the recognition of the legality of station terminal charges, he maintained that the Board of Trade tribunal had in this matter taken it upon themselves to decide what the law had not decided. But supposing this view to be correct, the Board have only done what the framers of the Act (and the Standing Committee on Trade in their turn) ought to have done instead, but shrank from doing. Instead of boldly facing the matter, and proposing something definite, it was left to the Board to deal with, with nothing much in the way of instruction for their guidance, and still less in the way of precedents, the latter being contradictory and of limited application. Sir Michael Hicks-Beach frankly admitted that had he known, at the time he advised Parliament to place this responsibility upon the Board of Trade, the extremely difficult nature of the task, he would have hesitated before making such a proposal. He went on to explain, however, that, although the principle of station terminals had been excepted, yet, as the matter had not been decided by the highest Court in the land, and there existed the possibility of an adverse decision, the maximum conveyance rates were reduced in compensation for the terminals. The extent to which this has been done may be gathered from the appended statements, although, of course, the comparisons are with the 1889 proposals of the companies, and are not based upon their present legal powers. The latter, in truth, are in such a state of chaos that it seems impossible to arrive at any conclusion which does not run the risk of being challenged; the figures resulting from various efforts which have been made in this direction having differed very considerably.

The opposition to the second reading was not pressed, and there will be ample opportunity for making representations (by counsel) to the grand Committee to which the Bills have been referred. They will probably be some time in passing this stage, but there seems to be some hopes that they may become law this Session. Sir M. H. Beach justly observed that it would be a most unsatisfactory termination to an exhaustive inquiry if the question should still be hung up for the consideration of some future Parliament.

CHELSEA POLYTECHNIC INSTITUTE COMPETITION.

THIS is the competition for the first of the proposed South London Polytechnic Institutes. The several sets of plans are on view at present at the offices of the Committee, 47, Duke-street, St. James's. The first place has been awarded to Mr. J. M. Brydon, whose design will we believe be carried out with a few unimportant modifications. A premium of 100 guineas has been awarded to the design by Messrs. Karslake and Mortimer, and one of 50 guineas to that by Mr. A. J. Bolton. The Committee reserved to themselves formally the right of ultimate decision, but they have acted in accordance with the recommendations of their Consulting Architect, Mr. Rowland Plumbe.

More than a year ago Mr. Plumbe addressed to the committee an elaborate report on the general principles to be kept in view in planning buildings of this class; a report founded upon the inspection of a considerable number of buildings of a similar class, and a systematic inquiry into their working. The objects proposed in this report were to provide a form of institute comprising three main branches: first, technical instruction in the principles of science and art underlying the industrial occupations of the people; second, recreative instruction in physical exercises; third, opportunities for social improvement and amusement, it being considered that young people in training for work as artisans would be far more likely to make use of such an institution, as far as the technical training was concerned, if it were made at the same time a place in which healthful physical and mental recreation could be obtained. It must be borne in mind that the technical training is not intended to be such as would be given in the highest class of technical schools and colleges, which are rather preparations for professions than for trades, but such only as is required to fit men and women for the intelligent undertaking of various handicrafts. In examining into the working of existing institutions of this class, Mr. Plumbe has come to the conclusion that no better model can be found than the Polytechnic in Regent-street, as developed in the last few years by the energy and liberality of Mr. Quintin Hogg; and we believe we may take it that the instructions to architects for the present competition, as well as for others which have followed or will follow it, have been more or less modelled upon the example furnished by the institution in Regent-street.

We have thus to consider a building providing for three classes of requirements, technical, physical, and social, as well as the necessary provision for administration. The following is the schedule of accommodation in the instructions to architects for the Chelsea building:—

		Feet.
Administrative and General Department.		
Secretary's and clerk's offices (three rooms)	Total	1,000
Council-room		230
Store-room, for office use		300
Three master's rooms, total		900
Men's cloak-room, near entrance		500
Women's ditto		300
Kitchen		450
	Total	
Department of Technical Education, &c.		
Boiler and engine-room, and blacksmiths' shop		700
Engineers', turning, and fitting shop		1,100
Pattern making shop		450
Electric workshop		1,100
Dynamo-room		300
Carpenters' shop		800
Bricklayers' shop		600
Plumbers' shop		600
Mechanical drawing for engineering		1,000
Do. do. for building construction, &c.		1,000
Technical library		500
Two lecture-rooms (each 1,200 ft.)	Total	2,400
Two preparation-rooms for ditto (each 250 ft.)	Total	500
Nine class-rooms, varying in size, average say 350 ft. each	Total	3,150
Four music-rooms	Total	800
Band and choir-room		600
Art school—consisting of elementary and advanced drawing studios, life class, and room for model, school of design, modelling-room, wood carving, and metal chasing, &c., room	Total	4,000
Photographic studio, printing, and dark rooms		800
Advanced chemical laboratory		800
Elementary do do.		800
Physics laboratory		500
Three women's class-rooms	Total	1,000
Women's school of cookery		400
	Total.	
Department of Physical Education.		
Swimming-bath (pond, 60 ft. by 25 ft.)		2,450
Attendant's room		100
Gymnasium		2,450
Attendant's and master's room		200
Two locker rooms (750 ft. each)	Total	1,500
Women's gymnasium		800
	Total.	
Department of Social Recreation.		
Men's refreshment-room		1,000
Women's do.		450
Reading-room for men		1,000
Do. do. women		400

Department of Social Recreation (cont.).	Feet.
Club-room for men	1,000
Do. do. women	540
Men's social room	400
Members' committee-room	400

In addition to the above, a large hall with large platform and organ chamber for lectures, orchestral and choral music, and other entertainments, must be provided; it must hold 1,200 in the auditorium, not less than 700 on the ground floor, and the remainder in galleries. It must have ample access from the main building, and in addition it must have separate accesses and staircases from the outside, and escape staircases and exits, &c., all as required by the rules of the London County Council in order to obtain a certificate for a public building having a licence similar to other buildings used for musical, dancing and theatrical performances. There must be ample accommodation in separate rooms for male and female artists, male and female choir rooms, and rooms for the orchestra, together with urinal, w.c., and lavatory accommodation all apart from the main building."

There can be no question that the design marked "G," by Mr. Brydon, is by far the most simple, convenient, and compact in plan, of the six exhibited. Mr. Brydon places his entertainment hall on the ground-floor, on the central axis of the building from back to front, the gymnasium and swimming-bath parallel with it to right and left; these three, with the stairs arranged in front of the bath and gymnasium, forming a central block round which there is a continuous corridor. The bath and gymnasium, however, are sunk into the basement, and lighting is got for the side corridors from the upper part of them, while the hall again is lighted over their roofs. The left-hand corridor is a "women's corridor," with a women's entrance facing the end of it, the right-hand one is similarly a men's corridor; the left-hand part of the front corridor is also partly devoted to women (cloak-rooms,) and the right-hand portion to men. The central entrance is a general one, with the secretary's office and members' committee-room on each side of it. The back corridor on ground-floor is a music corridor (musical class rooms, &c.), and is shut off by doors at each end. In case the large hall were used for entertainments open to the outside public, the central entrance would be convenient for this, but it seems probable that it would rather be used for those connected with the institution. The assessor points out that the concert room itself would need some kind of vestibule to prevent the sounds of a concert from disturbing other occupations going on in the building.

The front block alone of the building is carried up above the first-floor level (excepting the upper part of the large hall). On the first floor are class-rooms facing to the front of the building, which have a north-east light, though this information is not to be got from the plans, which, like most of the others, show no north and south point, for which we are indebted to the author of the set marked "B," who has not forgotten this necessary item of information. In the second floor are the modelling and drawing-rooms and life class-room, which are all top-lighted. The basement, which has a large sunk area in front of it, is used for the technical workshops, which are approached by flights of steps from the street into the area at each extremity of the boundary railing. The heating chamber and various cellars are placed under the large hall. The lecture room is on the first floor in front, opposite the gallery entrance of the hall. As the plan now stands, it is obvious that a lecture could not be given under satisfactory conditions, while a musical entertainment was in progress in the hall. We do not know whether it was contemplated that the two should be in use simultaneously; but if it is, this part of the plan would certainly have to be modified. We should have preferred also to have seen the latrines kept more separate from the main building, instead of merely opening out of a corridor among a range of other rooms in the basement.

The superior points in the plan, and which give it its special character, are the continuous and simple disposition of the corridor plan, and the admirable sectional arrangement of the hall, swimming-bath, and gymnasium, whereby light is obtained to passages which on the plan alone seem dark and confined. The elevation is of what may be called the Chelsea type, which the architect has made use of in other buildings in that locality; there is a central pediment with columns rising from the first floor level, a rusticated doorway with the usual segmental tympanum beneath, and six equally-spaced windows on each side of the centre, with rusticated quoins, and pediment heads to the upper windows; on the ground floor the space of one window on each side is occupied by the men's and women's entrance door respectively. The effect of the building is shown in a fine perspective in line drawing; it is no doubt somewhat square and heavy in effect, and perhaps would look more so in execution than when set out by the effective handling of the drawing; but it is dignified in appearance, and unquestionably the idea of an "Institute" (of one kind or another) is written on every line of it—as the architecture of Institutes is usually understood.

So much cannot be said for the exterior architecture of the second premium plans ("E"), which, with its toothed outline of three large gables and six small ones, rather suggests model lodging-houses than any kind of public building. The plan is rather straggling, and some of the departments depend for light and air on rather small internal court-yards. From the centre entrance a corridor leads straight through the building to the back, out of which open lecture-rooms on the left, and class-rooms on the right; the light of the latter must be rather overshadowed by the hall, which is at the extreme right of the buildings, and the lavatory opens direct out of the same corridor, next the class-rooms, in a rather unconsidered manner. The large hall is well planned for the principal entry; the music-rooms are placed underneath it, out of the way of annoyance to other parts of the building by practice, but also rather out of the way in point of access. The swimming-bath is at the south-west angle, reached by the long corridor from the centre entrance, the first-floor one leading to the bath gallery. The principal staircase, near the entrance to the large hall, is a good and roomy one. In general, we cannot quite see the reason for the position assigned to this set of plans.

In the third premiated set ("B") the central entrance leads to a staircase, up by the centre flight to the large hall, and down (by the two side flights) to the corridor leading to the music rooms, which (as in set "E") are shown with double walls with a cavity, for preventing or at least checking the transmission of sound from one to another. The Swimming Bath is across the centre of the buildings behind the hall, the gymnasium at one side. This arrangement leaves the Hall rather curtailed in its proportions. The buildings are spread in rather an irregular manner over the site, leaving a good many small irregular angles and nooks in the open courts; the men's "social room" looks on to one of these small courts; not a very interesting outlook, the front would be better, unless Manresa-road possesses a very continuous and noisy traffic. The women's department and entrance is at the right, with class-rooms on the ground-floor and gymnasium, and lavatory, &c., below; this department being cut off from the rest of the building. In the main we should consider this a better plan than "E." The elevation is a rather picturesque and elaborate one, apparently designed for brick, with turrets large and small, shown in a carefully-executed but rather over-worked drawing. It is the best elevation next to the selected one. The rooms for the art classes at the top are well arranged with top-lights only; "E" combines top light and side light, which we do not think desirable. The life class-room is a good square one, the best shape for a life class room, as the model should be as central to the students as possible; a long room is not a good shape for the purpose.

Of the unpremiated sets of drawings the best are those marked "A," the author of which has gone on the principle of isolating the hall and the physical department. The class-rooms of various kinds occupy a front block to the road, a corridor and covered way lead through to the large hall which stands in the rear; and on either side of it are the swimming-bath and gymnasium respectively, unconnected with the main building, and reached from an external entrance from the open courtyard. The isolation of the hall is a gain, in the way of keeping performances in it from interfering with the work of the building, and there is something to be said for the isolation of the swimming-bath and gymnasium; there is nothing to object to in this in fact, but of course it involves want of economy in building. However, the plan has an idea in it.

NOTES.

SINCE the fresh attention recently directed to the Architects Registration Bill it is satisfactory to observe that the daily press is beginning to see the folly of it, and to turn round and oppose it. As far as the Institute of Architects is concerned Mr. Waterhouse's plain and logical letter in the *Times* of Monday puts the matter in the right position. Mr. Waterhouse points out that the Institute has never been guilty of the folly of supposing that a student can be manufactured into an artist by mere industry in preparing for examinations:—

"It recognises the fact that an architect ought to be many-sided. He should be an artist, a man of science, and a man of business. The Institute cannot make an artist of him, but it can see that, before he enters its ranks, he shall have a knowledge of certain scientific facts and business matters, which are as necessary for architects as artistic attainments. The distinguished painters who have signed the memorial do not deny the propriety of their students being required to study anatomy, and yet the most profound knowledge of anatomy does not make the painter-student into an artist."

It is to be hoped that Mr. Waterhouse's letter will avail to undo the mischief which has been done by the memorial to which we referred to last week, in which, by the uncalled-for and groundless suggestion that the Institute was only opposing the Bill because it desired to bring in a similar measure of its own, the memorialists actually played into the hands of the very persons they were opposing. A letter from Lord Grimthorpe, which followed modestly in small type at the heels of Mr. Waterhouse's letter (a sign of the times this!), is as usual amusing reading, in its characteristic endeavour to say something unpleasant about all parties, those whom he agrees with and those whom he disagrees with alike. Of course we are told that a number of persons have expressed a wish to know Lord Grimthorpe's opinion on the subject; but, as usual, they are anonymous persons who are too modest to express themselves publicly. It would be interesting to know who are the persons who value Lord Grimthorpe's opinion on the subject of "Architecture an Art or a Profession." We have never heard of them. It is interesting, however, to note that Lord Grimthorpe is of opinion that the public cannot be protected by any legal enactments against bad design in architecture. Lord Grimthorpe, therefore, is safe, however the public may suffer.

WE feel bound to enter our protest against the manner in which the Press, and especially the technical Press, is treated by the London County Council in the matter of the issue of important reports. On two or three occasions documents of great moment have been prematurely communicated (by members of the Council, we believe, and not by the officials) to one or two favoured journals. We will mention two instances, both of them relating to reports of the utmost importance. Mr. Binnie, the Engineer of the Council, on the 8th and 29th of October last submitted to the Council's Special Committee on Water Supply two

reports on that question. These reports were only "ordered to be printed and submitted to the Council" by the Committee on December 15, 1890; yet a summary of them appeared in a monthly journal dated November 15,—just a month earlier. This premature disclosure of important documents is neither conducive to the dignity of the Council nor to the public interest. The second instance we have to refer to is that of the report of Sir Benjamin Baker and Mr. Binnie on the main drainage question. Although this report was not formally before the Council until Tuesday last, when its consideration was adjourned, it was prematurely communicated by some member to the *Times*, and appeared in that journal on Saturday last. We must leave it to the Council to take steps to guard its own dignity and the interests of the public against this premature disclosure of documents; but what we have especially to complain of is that even when important reports of this kind are actually before the Council, it is very difficult, even by repeated application, to get copies of them, and up to the time of going to press we have not been able to get a copy of the report on the main drainage question. Why cannot the London County Council adopt the practice of the Houses of Parliament? When a Bill or report or other public document is issued to members it is also issued to the Press and to the public. If it is deemed necessary that a Parliamentary Bill be issued to the Press for publication and comment before it is discussed in Parliament, is it not equally necessary that reports recommending the expenditure of millions of money on engineering works should be issued to the technical press concurrently with their issue to the members of the Council? We know that there are a few engineers on the Council, but we should have thought that they would have been glad to have the opinion of constructional and engineering journals on proposals of such vast moment to the inhabitants of London.

WE alluded last week to the report of the Manchester Corporation as to the Ship Canal. This week we have to note that the Corporation has unanimously approved of that report, and recommends that the City of Manchester should assist the Canal by advancing a large sum on the security of debentures to complete the undertaking. The ratepayers have now to ratify the action of the Corporation, and if they do so, a bill will be applied for by the Corporation. But the more the matter is looked into, the more dangerous does the action of the Corporation of Manchester appear. They establish a precedent of the largest application, and they risk the possibility of permanently burdening the ratepayers with a useless asset. It may be that the Ship Canal will ultimately become a commercial success, as we hope may be the case. But at present its promoters have been misled on the fundamental element in its success, namely, its primary cost. When the undertaking begins to compete with the great railway companies and with the Liverpool Docks, it is well within the bounds of possibility that it may be found altogether, or very nearly unremunerative, and that its promoters' forecasts may be again untrue.

THE case of Barrow *v.* Isaac & Son, which is reported in the current number of the Law Reports, deserves to be noted, before it passes away into the legal records, as a warning to persons to be careful in regard to the sub-letting of premises. The lease in this case contained a covenant not to sub-let without the consent in writing of the lessor, a very usual feature in every lease. But the lessees did sub-let, without this consent, by the forgetfulness of their solicitor. The sub-lessee was a perfectly respectable person, and according to the terms of the lease the consent of the lessor was not to be arbitrarily withheld. Therefore, if the lessor's consent had been asked in the first place it would have been impossible for him to withhold. But there had been a technical breach of the covenant in the lease, and so the landlord was entitled to re-enter and take possession of the premises, and he accordingly brought an action for this purpose. It was held by the Court of Appeal, affirming the judgment of Mr. Justice Day, that the lessor was entitled to have possession of the premises. No doubt the judgment is technically correct, but it somewhat shocks common-sense ideas that a person should be able to re-take possession of land when it is obvious he is suffering no damage or loss whatsoever. Under the Conveyancing Act, 1881, a lessee has in some cases, such as breach of a covenant to insure, an opportunity of putting himself right by payment of money. But covenants against assigning or underletting are specially exempted from the Act and are left to the ordinary operation of the law. But it would certainly be a step in the right direction to enact that in order to justify a right to take possession when a sub-lease has been made without the consent of the lessor, the latter must prove that the sub-lessee was not a fit person, or one whom, in the first instance, he would have taken as a tenant.

FROM a portion of the report on the main drainage of London, made to the County Council by Sir Benjamin Baker and their own Engineer, Mr. Binnie, which has appeared in the *Times* (though we understand not officially communicated), it appears that these eminent engineers recommend the continuation of the system of chemical precipitation of the sewage, and removal of the solid matter out to sea, as the best course for the present, though not to be regarded as a final one. From the continuation of the present operations they anticipate great improvement in the state of the river. They add that it is in their opinion "essential to direct the most serious attention to the constantly increasing abstraction of upland waters by the various water companies, which they consider to be a most potent cause of many of the grievances complained of in the middle and lower reaches"; an opinion which has an important bearing on the question of London water supply which is receiving so much attention at present. They consider that the low-level sewer on the north side of the Thames is taxed far above its present capacity, and that two new sewers should be constructed on the north side of the Thames and one on the south, and that the capacity of the outfalls should be increased to a corresponding extent.

HERR ANTON V. WERNER, the President of the Berlin Committee arranging the International Art Exhibition, has made some statements referring to the basis on which his Committee worked in regard to its invitation to France to exhibit. Referring to his intercourse with the French Embassy on the subject, Herr v. Werner says, first, that it was not of his own accord, and very much against his ideas, that he had asked M. Herbette to take the matter in hand; he had done so by the special request of the Paris Committee managing the proposed French group, who had wished to have at least the semi-official approval, if not the assistance, of their Government; and, secondly, he states that the intercourse he did have with M. Herbette was of a private nature, and by no means officially for the Exhibition Committee, as generally supposed. Herr v. Werner's remarks on the subject, which have been published in full, whilst showing contempt for the manner in which the French artists have bowed to party opinion, show also how disappointed the President of the Committee is at such a serious gap in what he had planned to be a real international exhibition, and that he still hopes that matters may be mended before the opening day.

AT the Carl Winckelmann Festival of the Archæological Society at Berlin (No. 50), Dr. Fürtwangler read an important paper on extant works of sculpture which he held to be more or less close copies of statues by Kresilas, the contemporary of Pheidias. Of these he enumerated no less than ten. 1. The well-known Herm of Perikles. 2. The statue of the wounded Amazon, already connected with the name of Kresilas by Jahn. 3. A marble head in the Berlin Museum (in the catalogue No. 311), said to be similar in style to the Perikles, but whose characteristics we cannot recall. 4. A Diadumenos, of the head of which there are replicas both at Dresden and Cassel, and the body of which is preserved in the little terra-cotta published in the Hellenic Journal, 1885, vol. 61, and also in a marble torso at Berlin. 5. A youthful helmeted head of Ares, of which one of the best copies is in the Louvre. 6. The Diomedes of Munich (Glypthothek 162). This statute had been already independently attributed to Kresilas by two high authorities, Drs. Loschke and Studniczka, while Winter attributes it to Silanion. 7. The so-called Alcibiades in the Sala della Biga in the Vatican, which is possibly the statue of a runner. 8. The Athene Velletroi of the Louvre. 9. The Medusa Rondanini of the Glypthothek, a work in which, according to Dr. Fürtwangler, the artist's individual characteristics most clearly come out. 10. A diadumenos head of the Petworth collection. A close analysis of the characteristics of eyes, forehead, hands, feet, of the proportions of the limbs, and, in fact, of every detail, followed. This, naturally, could only be appreciated in a cast museum, where reproductions of the several statues are at hand. Dr. Fürtwangler concludes that Kresilas was strangely influenced in externals by Polycleitus, but that his own genius was more analogous to that of Myron,—a conclusion practically the same as that which Dr. Brunn had arrived at on literary grounds.

IT has been already noted in our columns that it is the intention of the Municipality of Paris, in its future purchases from among the works at the annual Salons, not to confine itself to the purchase of painting and sculpture only, but also to purchase objects of decorative art. In reference to this the association of "Architectes Diplomés par le Gouvernement" have addressed a memorial to the Municipal Council, praying that the designs or models exhibited by architects may be classed among the list of works open to purchase by the Municipality. They observe that "these works, nearly always decorative in character, are of interest to all classes of industries, and might advantageously be utilised in the museums and libraries of the city, as well as in schools of art, in which the Municipal Council shows so much interest." In all which there is a good deal of truth, and perhaps a public body in Paris may be able to understand the interest and value of a good architectural drawing. It is almost too painful to think what would be the reception of such a petition addressed to the London County Council or the City Corporation.

WE have received the first number of the *Health Record*, a sanitary journal for Ireland, published in Dublin. It is gratifying that there is encouragement for such a journal in Ireland. We learn from the column entitled "Health in the Home" that the Dublin Ladies' Sanitary Association has taken an active interest in this subject, though apparently with but meagre support, and that one lady, Miss Mary Todd, is giving a series of "Health Lectures" at a school at Ardnagreena, to which girls and young women are admitted at a charge of 6d. each, and that these are well attended and promise to be a success. Among the original articles of the number is one on "The Development of our Health Resorts and Watering-Places," urging that a movement should be made to render the watering-places of Ireland more attractive to visitors, considering that they already possess in an exceptional degree the two great desiderata for health resorts; viz., unrivalled purity of air and water.

IN regard to the state of some of the houses of the working-classes in Windsor, to which public attention was again directed the other day by a question in the House of Commons, the Rector of Windsor, the Rev. Arthur Robins, writes to us:—

"A reply recently given in Parliament by Mr. Ritchie to a question concerning one of the worst of the Windsor slums calls for more attention than it has received. After an inspection of the Royal borough by the Local Government Board, it was reported in 1887 that the older courts and alleys of Windsor, to which the *Builder* had long before called attention, were in all or in some respects 'still pitiably bad.' Of South-place, perhaps the most conspicuously corrupt of all these rookeries, it was reported,—'of thirteen houses on the south side ten have no opening whatever at the back, no scullery, and no closet; we see no way of rendering them tolerably habitable but by demolishing every third house, and converting its site into a yard for its neighbours, with a proper closet to each.' In a supplementary report, after revisiting the spot, issued in January last year, the inspectors emphasized the fact that their recommendation had been wholly disregarded, inasmuch as they found that 'the dwellers in the houses on the south side are still under the necessity, for closet purposes, of crossing over into one or other of the back yards on the north side.' The same terrible necessity exists at this moment. Whilst this, of course, reveals all the possibilities of the most appalling immorality, and whilst, moreover, these ten houses are actually at this present absolutely without any sort of sanitation whatever of their own, Mr. Ritchie, nevertheless, in Parliament a few days ago, in answer to a question put by Mr. Leveson-Gower for Earl Compton, stated, without any protest or rebuke of any kind, that he had been 'informed' that the sanitary accommodation of these ten houses was 'not inadequate.' The slums of Windsor, thus officially protected, close to the Castle walls, are not unlikely to remain, as they are to-day, 'still pitiably bad.'"

IN a communication to *Notes and Queries* of 28th ult., Mr. J. F. McRae directs attention to the demolition, as then in progress, of "Goldsmith House," in Goldsmith-road, Peckham, which he describes as being "a very likely looking building" in connexion with the fact that Goldsmith is known to have once served as an usher at a boys' school in Peckham. In Mr. Walford's "Old and New London," vol. vi., f. 289, we read that the school-house in question, Dr. Milner's, was pulled down in 1876. This statement, too, is repeated in a recent edition (1889) of Mr. Laurence Hutton's "Literary Landmarks of London." In March, 1876, was announced for sale at auction the unexpired lease, for 226 years, of "Goldsmith House, formerly the residence of the celebrated poet, Oliver Goldsmith, situate in Goldsmith-road, Peckham . . . . with one acre of land," &c., and the sale was duly completed. John Milner was pastor of Hanover Chapel, Peckham (rebuilt in 1816), from 1741 until his death in June, 1757. According to E. W. Brayley's "History of Surrey," vol. iii. (1841), he "kept a school in Meeting House-lane, in what is now called 'Goldsmith House.'" Brayley goes on to say that Goldsmith was usher there between the years 1751 and 1754, but the late John Forster, in his life of the poet, adopting, upon good *data*, a later date, fixes his stay at Dr. Milner's as for an interval in 1757. He says, too, that before the end of April, in that same year, Goldsmith had covenanted to leave the school, to board and lodge with Griffiths, the bookseller (whom he had met at Milner's), and devote himself for one year to the "Monthly Review."

THE new scheme for Christ's Hospital, to which we adverted in a "Note" on December 21, 1889, came into force on the first day of January last, when the Council of Almoners entered into office. The governing body have already applied themselves to their duties by inviting offers of sites in the country for the "Hospital" boarding schools—that is to say, one for 700 (and more hereafter) boys, one for 350 girls, and one (preparatory) for 120 boys. Each site proposed should consist of not less than 250 acres, and lie within an hour's journey, by rail, from town. The existing premises in Newgate-street stand upon a little less than five acres of ground,—more, perhaps, than is needed for the two day schools for boys and girls to be established under the scheme. At the present time the Hospital Council have at command an income of 60,000*l.* a year; and, setting aside the now preparatory school at Hertford, it has been estimated that the sale of the Newgate-street property would realise enough to provide for the two day schools and the two boarding schools for boys.

WE understand that, after an interval of nearly five years, the project of pulling down the Spanish and Portuguese Synagogue in Bevis Marks, and letting or selling the site, is again revived. This is the synagogue of the Sephardim Jews, as distinguished from the neighbouring German and Polish community, or Ashkenazim, who worship in the Great Synagogue, rebuilt in 1790, in St. James's, *olim* Duke's-place, by Aldgate, James Spiller, architect. Five years since the wealthier members of Sephardim built a synagogue in Bryanstone-street, W., Mr. H. H. Collins, architect. At Bevis Marks the late Sir Moses Montefiore was appointed "elder" in 1814. This congregation claims to be the oldest of its kind in England since the Commonwealth, when their predecessors established a synagogue in King-street, hard by, in 1652. The present one, which, with its schools, almshouses, and offices, stands at the corner of Bevis Marks and Heneage-lane, was built in 1701, Dr. Nieto being then Chief Rabbi. The interior is a good example of the style of that day, and therein are still preserved, we believe, a beam presented by Queen Anne, and a fine candelabra of old Dutch workmanship. Bevis Marks is supposed to be a corruption of Bury's-Marks; the property here of the Basset family passed to the abbots of Bury; whence Bury-street, and, probably, Mitre-square; and after the dissolution to Thomas, and his son, Sir Thomas Heneage. Sir Thomas Heneage, Chancellor of the Duchy of Lancaster, was buried in old St. Paul's, 1595.

AS the lease of No. 12, Lincoln's Inn-fields expired last year, the trustees of Sir John Soane's Museum, being vested owners of the property, have been enabled to make some advantageous changes in the museum itself, which is preserved in the adjoining premises. Two additional ground-floor rooms have been built at the back of No. 12, after designs made by Mr. Wild, the curator, in harmony with the general style of the interior of Soane's own house; and the basement rooms have been re-arranged. The increased space and light thus gained will provide for the better exhibition of many of the objects,—now crowded together,—in that part of the museum. Hogarth's "Rake's Progress" is hung, in company with his set of the "Election," in the "Hogarth" room; and the large model of Pompeii has been removed to a more convenient place. Soane built this house for himself in 1792, and in 1813, No. 13 where he died on January 20, 1837. It is stated that he, the son of a bricklayer at Reading, began life as an office-boy, and then pupil, to G. Dance the younger, in whose household Soane's sister was servant. He entered Holland's office, whence, in 1776, he gained the R.A. gold medal and travelling studentship. He bought the "Election" for 1,650 guineas, at the sale of Mrs. Garrick's effects; and gave 570 guineas for the "Rake's Progress." He is said to have spent 60,000*l.* upon the entire collection.

A CORRESPONDENT sends us a copy of the New York *Sun*, containing a rough engraving, with a long description, of a portentous building designed by Mr. Bruce Price, the eminent New York architect, for a business building of thirty-two stories, and nearly 450 ft. high. We gather that the design is a speculative one only, to show what might be done on a site of small area. It takes the form of an immense campanile, the greater portion being sternly plain except a portico at the entrance, and merely pierced with rows of square-headed windows. At the top is a gigantic cornice, and over that a colonnaded gallery with its own entablature, and a smaller block with a pyramidal roof over that. The building is proposed to be a combination of steel and masonry, faced with terra-cotta. The structure is designed mainly with the object of furnishing a good return for the ground occupied and the expenditure in building, hence the plain character of most of the work. A grand thing might be made of such a towered building, architecturally; but judging from the rough print published in the *Sun*, we do not think the architect has made the most of the opportunity, even within his economical limitations. The decorative portion at the top looks heavy and devoid of invention and picturesqueness; and the colonnaded porch at the foot, large as it evidently is in actual size, seems crushed by the main building, with which it appears to have no architectural relation. There is an evident leaning towards experiments of this character in America, and we should expect that one or more will be carried out before long. There is no reason why they should not succeed, and even be at the same time works of architectural grandeur, but they must not be multiplied too much in a city. One or two would do no harm, except to the houses and streets in their immediate neighbourhood.

THE collection of drawings by Mr. Parsons at the Gallery of the Fine Art Society seems to be intended as another set of garden pictures; at all events his subjects run very much into gardens, and these are the best of the collection. Perhaps quite the best is the one hung on the centre of one of the walls, under the title "The Light that Failed" (15), a garden shrubbery walk with masses of dark trees standing up on each side of the picture, showing a faintly-lighted saffron evening sky between; in the foreground a girl in a scarlet dress reclines on a garden seat, this piece of strong colour producing a remarkable effect in contrast with the dark trees and the faintly-lighted sky. The sunflowers against the wall are not without their effect on the whole. It is rarely that one sees a water-colour which combines so much of nature with so much of decorative effect. We call this small picture a remarkable work of its kind. "Red Apples" (14) and "Guelder Rose, Bodenham" (16), combine interesting figures with flowers and foliage. "Michaelmas Daisies" (23) is a fine piece of flower-painting. "A Hillside Orchard, Holme Lacey" (26), is a wilder and more free style of landscape. Among the gardens is a charming bit from "Canon Swayne's Garden, Salisbury," with the cathedral spire rising above the masses of flowers. "The Terrace Walk" (52) is another beautifully-painted garden scene, but the old house which appears in this and one or two other drawings is not very satisfactorily painted; the architecture is smoothed out and devoid of texture. The most remarkable illustration of the beauty of artificial garden scenery is shown in "The Gay Garden, Holme Lacey" (45), a wide parterre of gay and gaudy flowers in symmetrically-arranged beds, backed by great square masses of green hedge; two or three female figures as brightly arrayed as the flowers seem to go naturally with the rest of the scene, which looks like the site for a modern Decameron.

WE have received from Mr. George Ord, architect, of Durham, a correspondence between himself and the Committee of the Freemen of Newcastle-on-Tyne, which we have not space to print, but which calls for strong comment. The Committee advertised in the Newcastle papers as follows:—

ERECTION OF COW BYRES ON THE TOWN MOOR.—The Stewards' Committee of the Freemen of Newcastle-upon-Tyne have decided to offer premiums of 10*l.* 10s., and 5*l.* 5s., respectively, for the *two best designs* (in order of merit) which shall be sent in to them for the erection of byres on the Newcastle Town Moor, to accommodate 100 cows, at a cost not exceeding 1,250*l.*; the following conditions to be complied with:—The requirements of the Local Government Board, the Public Health Act

and the sanitary by-laws of the city must be strictly adhered to and carried out. The plans must show the elevation, section, and ground-plan, and will remain the property of the Committee, and must be sent in under "Motto," no name to be disclosed. Any one transgressing this condition will be excluded from the competition. If the work is gone on with, the successful competitor will have the carrying of it out. The Superintendent of the Town Moor (Mr. Alex. Sinclair, New Bull Park), will point out the piece of ground, an acre in extent, where it is intended to erect the byres, at any time on application. Plans to be sent in addressed to the Stewards' Committee of the Freemen, 4, Brunswick-place, Newcastle, on or before October 1 next.—Brunswick-place, Newcastle, September 3, 1890.

Mr. Ord competed, along with other architects, for this modest premium, and in course of time received an official letter informing him that the committee "regretted that his plans did not come up to the required standard." Mr. Ord wrote to enquire what competitor had been selected, and also if the committee had made any arrangements for the return of the unsuccessful drawings, and was told in reply that if he would refer to the advertisement he would see that the plans were to remain the property of the Committee! This we think pretty well surpasses anything we have previously met with as to the shabby and high-handed treatment of architects by Competition Committees. It is true that grammatically the wording of the advertisement would read that all the plans were to remain their property, but it would probably hardly occur to any competing architect that a Committee could deliberately invite architects to compete for such a miserable premium, and intend in addition to impound all the drawings sent to them, whether premiated or not. Our correspondent writes in considerable indignation, which we fully share. The proceeding is discreditable to the Committee whether considered in the light of common sense or common fairness, and as far as we know is altogether unprecedented in the annals of architectural competitions.

DRAWINGS AT THE BRITISH MUSEUM.

The collection of drawings now exhibited in the large Print Exhibition Room of the British Museum, and which has superseded the collection of Japanese drawings which have been on view there for some time back, is a remarkable one in its variety of interest, and gives some idea of the hidden riches of the Museum in works of this class, generally only known and accessible to the comparatively small class of people who obtain admission to the Print-room for special study. It is to be hoped that the new gallery will be utilised for a succession of such displays yearly, so that all the contents of the Print-room may, in course of time, be passed before the notice of the general public.

The architectural drawings in the collection are not numerous, but include some of considerable interest. Among them are two drawings by Du Cerceau, one for one of the court façades of the Louvre, the other for the court of the château of Verneuil. Both are of remarkably neat draughtsmanship for the period to which they belong; the Verneuil drawing is a peculiar combination of elevation with perspective, the front plane of the building with its order being in geometrical elevation, while the colonnade in the rear of the ground-story is shown in perspective, its lines radiating from a vanishing-point at the axis of the elevation. The architectural ordonnance consists of an order of coupled columns or pilasters on the ground-story, with arches between, and large shallow pilaster-like projections in the upper-story, surmounting the coupled pilasters and decorated with niches and figures; a very richly-decorated balustrade crowns the entablature. The effect of the whole is unfortunately spoiled by the hideous collections of masks and trophies which form acroteria over the piers of the balustrade. The central bay is emphasised by a semi-circular *fronton* carried by two couples of female caryatide figures remarkable for the disproportion of their figures, the heads being absurdly small for the height of the figures. It is a far inferior piece of architecture to the Louvre in point of architectural refinement. Another interesting drawing of Du Cerceau's is the view of the "Chasteau de Boullongne," now destroyed; the title is too literally given in English as the "Castle of Boulogne," which is hardly the real equivalent of "château." This is a prim and hard perspective view of a high-roofed sixteenth-century château, with a rich architectural treatment interrupted at intervals by perfectly plain turrets with only a single set of windows on the centre line. A remarkable specimen of Du Cerceau's work is also a drawing, very carefully executed in line, with slight washes for shadows, of six figures of "Assyrian monarchs," which formed the sculpture decoration in the niches of the upper story of the Verneuil elevation before mentioned. Here also the heads are too small, but there is great spirit in the drawings and a great deal of power of expression in the heads.

Near these are two large London sketches of Canaletti's, one of St. James's Park looking towards Spring-gardens, the other of Old Westminster Bridge, looking towards Lambeth. Both these are admirable specimens of architectural sketching on a large and elaborate scale, lined in with pen and faintly washed with Indian ink or some such tint. They are valuable drawings in a historical sense as well as in point of artistic power. Canaletti's rival, Guardi, does not come out nearly so well in this type of sketching; there are two Venetian views by him close to, showing perhaps greater freedom and atmospheric effect, but not nearly so precise and careful in the indication of details. Fancelli's two drawings of the entrance-gate to the court of the Ducal Palace at Venice, and the interior of the court, are drawings of a different order, fully shaded in a warm brown tint and very rich and artistic in effect.

The collection of Italian drawings, of which these form a portion, extends over one end wall. It includes many drawings interesting either as curious or beautiful, or both. Among the things of special interest may be mentioned various drawings by Luca Signorelli and Michelangelo; a pen study of a tree by Titian, some studies by Baccio Bandinelli and other names of less familiarity. Among the German and Flemish drawings on the side wall is a curious specimen of Israel van Meekenen, a man in armour with his back to the spectator, and an unfinished pen drawing by Dürer of Apollo and Diana. Several portraits by Dürer are here, one very fine one is that of Lord Morley, a crayon drawing on a very dark toned paper. Among the later Italian drawings is a very interesting set of rather slight colour sketches by Stefano della Bella for costumes for a masque of Hypermnestra; curious relics of the taste of the time. Thetis and Venus are robed in rich Renaissance dresses; the Furies have a kind of ballet costume with hideous masks and short skirts of flame-like character. A set of sketches of the pranks of Centaurs and Satyresses, by Tiepolo, are of value as among the many curious indications to be found in sketches of the period, as to the essential Paganism of taste in the Renaissance mind. Among the Dutch drawings are some admirable specimens of Van Huysum's flower drawing, and also some very carefully-executed flower-drawings by Holzbecker, who worked in the middle of the seventeenth century in the Province of Meissen. These are various coloured studies each of a single flower with a piece of stalk and leaf, coloured with the greatest minuteness, hard and formal in effect, but most conscientious as studies.

Of the old drawings none are of more interest as bearing on the character of the Renaissance period, its rich but extraordinary and half-grotesque fancies, than the set of pen-drawings by Maso Finiguerra, a set of illustrations to "A Chronicle of the World," exhibited in a special case by themselves. These are Florentine, of the fifteenth century, and a more curious and characterisric set of designs it would be difficult to imagine. Here, in this chronicle of the world as it appeared to the Florentine mind of the period, we see the elopement of Helen with Paris represented by the figures of a lady and gentleman walking arm-in-arm beneath a circular Classic temple or shrine, with columns the surface of which is covered with decorative leafage, and which has a Classic frieze with a procession of cupids carrying or entangled in "swags." The perspective of the circular cornice is wrong (of course), but the frieze is drawn with the greatest spirit. "Apollo Medicus" is represented by a figure in a kind of Jewish high priest's robe and mitre, standing in the middle of a circle inscribed on the floor, outside of which stand two of the most extravagant little demons or familiar spirits, looking like the grotesque beings of Renaissance ornament called into life. "Jephtha sacrificing his daughter" has a helmeted head like those seen in some of Lionardo's studies, and raises a great scimitar to smite off his daughter's head. "Virgil and Aristotle" appear in embroidered robes and with head-dresses which are a combination of the turban and mitre. The whole set is about as curious an example of the exuberant Renaissance fancy as could be seen.

Two walls and all the floor cases are devoted to drawings of the British school of the present century, and a remarkable collection they make: we can only indicate a few of the principal things of interest. Among the early drawings names come up that are unfamiliar enough now. There is a powerful sketch study of trees with the name of S. W. Reynolds. The back of the same case is devoted to a whole series of small and rapid sketches by Constable, illustrating his manner of noting down effects rapidly: some of these are very fine. It is interesting in the next case to come across Peter de Wint's name attached to still-life studies and a view of Crewe Hall; some of his landscape studies are also shown. Two sepia sketches of John Martin's remind one of a vanished reputation; one of them, "Warrior Defending his Family from Wolves," is too amusing to pass over; scene, a rocky glen of the Martinesque type, wolves larger than lions of the present day, and so on. Prout's pencil sketches of buildings come out well; it is interesting to see his architectural drawing in this form, in which it looks far less mannered than with the brown tint on it. Wilkie is represented by a drawing of Edinburgh old town by night, a nude study, and a sketch portrait of the Duke of Wellington; a tolerably varied illustration of his powers. C. R. Leslie's portrait of the Duke, next to this, as an old man standing and partly turned away from the spectator, is very beautiful and dignified. A portrait of John Crome by John Sell Cotman is not a thing to be passed over, though it is not flattering to Crome.

William Hunt and John Frederick Lewis have one side of a case to themselves. Then we come to some architectural artists; Charles Wild, (a rather hard but careful interior of Henry VII. chapel), David Roberts, James Holland. How many readers know of John de Capelain, who "worked in Jersey, the Isle of Wight, and London" 1814-48? The one example of him shows the same kind of style and feeling as Cotman, a small seaside piece with much picturesque power in it. Clarkson Stanfield's "View of Broadstairs" is an admirable sketch, as a sketch. Kenny Meadows's little coloured subjects from everyday life of his period are curious to look at now: not without a finish and merit of their own, but representing, both in an artistic and social sense, a taste that has entirely passed away. There is a greater interest about the case of works by Edward Calvert, another nearly forgotten name, though he died in 1883, being then a year older than the century. There is a great deal of beauty and poetic suggestion in his classical landscapes and figures, seen through a kind of golden haze; there is a strange handling in regard to colour and texture which reminds one of Blake's manner (or one of his manners) in water-colour.

The English collection on the walls commences with some interesting crayon studies for portraits by Lely, Kneller, and some of their followers, including a life-size sketch by Jonathan Richardson (1665-1745) for a portrait of the noble head of Purcell. A few Hogarth drawings are there, and some of John Collet's curiously Teniers-like studies of peasant life; Teniers-like in humour and subject, not in *facture*. Other names represented on the end wall are Gravelot, the French-English artist Reynolds (no very remarkable drawings); Bartolozzi, by whom is a fine nude study in red chalk, and Angelica Kauffmann, whose crayon drawing of "Paris and Helen" is a fine composition, more vigorous in style than the general average of her works.

A large study of Fuseli's for his "Nightmare" is near there, not equal in conception to the picture however. Landscape studies by Paul Sandley and Barrett are to be noted; a lovely sketch of a sleeping child and angels by Cosway, and the caricature of Gibbon by Lady Di Beauclerk, the wife of Johnson's fashionable friend. Blake is represented by one or two of the most Blakian of his drawings. Flaxman's various drawings for the monument to Collins are grouped together, illustrating the poet's

Ode to the Passions. John Ward is very largely represented, and his collection of water-colour studies of animals affords remarkable evidence of his power. Turner and Girtin are represented by two drawings only, side by side, both of architectural subjects; Turner's being Magdalen tower and bridge, and Girtin's a beautiful sketch of a delightful old Georgian House, "Dr. Monro's House, Fetcham." Sir Thomas Lawrence surprises us, besides the sketches for portraits (a very characteristic one of William Godwin), by a "View of the Meadows Opposite Sloane-street by Moonlight;" a curious experiment for the time, and for a portrait painter; it is a slightly worked sketch on dark grey paper, but the effect of moonlight is very well conveyed.

The collection seems to draw a large number of visitors of the average class. Possibly at at some other time the authorities would give us a collected exhibition of the architectural and decorative drawings in their possession; it would not be so popular with the many as this miscellaneous selection, but it would attract great interest in the artistic world.

SOME PRINCIPLES AND METHODS OF DESIGN.*

As the engagement I made some months ago to read a paper to the Architectural Association,—and had, I fear, forgotten,—was brought to my memory somewhat late, and at a very busy time, when any considerable amount of preparation was out of the question, I decided to take up a subject which has necessarily forced itself upon me in the course of practice, of which the materials are therefore ready in my mind and had only to be arranged with some degree of method and order. I am, of course, compelled by the nature of the subject to speak from personal experience, and, lest my remarks appear egotistical, I must premise that I have no wish whatever to claim for my own methods any superiority over those of others, which may be equally good or better. A comparison of experiences in methods of design can scarcely fail to be profitable, and I propose, in giving my own for what they are worth, to aim at raising discussion rather than to dogmatise.

But seeing that method in design must necessarily be governed by the aims and principles of the designer, I have thought it best to widen my subject somewhat, and to define what in my opinion these should be.

In stating the principles which should govern design, and must therefore dictate the method, I am aware that I shall have nothing original to say. It has been said to my knowledge already in this Association by one fully competent to deal with the question,—and has, moreover, been lately more fully discussed in connexion with the question, Is Architecture an Art or a Profession? As to the latter question, I may observe incidentally that I would that architecture could be altogether an art, and not at all a profession; but, unfortunately, such is the condition of things, however much we may strive to limit our thoughts and aims to the artistic view of practice, the professional is found to obtrude itself to a quite lamentable extent.

Still, I assume that with all whom I am addressing, art is the motive and aim of their design, and the professional side of work is considered as a necessary and more or less unpalatable condition; and, further, that it is their determination that the work which passes under their own names shall be absolutely and entirely their own. If this were otherwise my task would be greatly simplified. I should merely have to say: "Choose an efficient clerk, interfere as little as possible with his design, spend a good deal of time in looking after the execution of his work, and bully the builder so that your clients may put you down as a thoroughly practical man and give you credit for its origination, and do not grudge the time necessary to make yourself tolerably acquainted with your assistant's design, lest you should at any time be at a loss to answer any embarrassing questions which a troublesome client may ask." By this means a life of comparative leisure, varied with pleasant trips at other people's expense, may be combined with reputation and affluence.

Let us assume, however, that we all are agreed that the system which may be described as that of the "devil," "the ghost," "the sweater," whichever term be preferred, be regarded as the fraud on the public which it undoubtedly is, and that further, we look upon every work undertaken as an opportunity for working out a result for the benefit of art,—that this is definitely held to be the motive and the crown of the architect's work.

But however ideal the motive may be,—however exclusively it be held,—it is impossible to ignore the fact that the art of architecture is, more than any other art, based upon the practical. It is of all the arts that which, to use a metaphor, must be most deeply rooted in the earth. The extent to which the ideal is conditioned or governed by the actual varies in all the different branches of art. The degree to which the proportion varies in regard to each might be a matter for somewhat lengthy discussion; but it is clear enough that if the arts were placed in order, however it might fare with the intermediate branches, poetry, sculpture, and painting, architecture and music must necessarily occupy the extreme positions,—the one as being most closely held in the bonds of the actual and practical, the other as enjoying the greatest amount of freedom. Whether this is a favourable condition or the reverse is also a question which could not be easily settled. I am not prepared to admit that, because of its bondage to the practical, Architecture need consent to take a back seat among the arts. This condition undoubtedly makes the attainment of the desired result a more complex and, to a great extent, a more difficult operation. It certainly should, if duly understood by the public, make our critics more appreciative of success and tolerant of comparative failure than they seem inclined to be at present. At any rate, however our art may stand affected favourably or the reverse by the conditions to which it is subject, it is obvious that success can be looked for only as the result of a frank and candid recognition of its limitations, and this recognition must necessarily influence the methods employed.

The problem, then, as it presents itself to the architect, is to deal with all the practical elements of architecture; to fulfil precisely the requirements of his client as to accommodation, arrangement, to give full weight to conditions of health, &c.; to construct his building in a thoroughly architectural manner, without any undue resort to such facilities as engineering may afford in these later days; and to accomplish all this within certain specified limits of expense. When he has accomplished all this, if he has done no more, he has, according to my theory, in no manner approached the proper or legitimate functions of an architect. We may allow that his achievements may be considerable; that if the work on which he is engaged is large and complex, he has shown, even in doing so much as this, faculty of no mean order, such as might have won him much credit in many departments of intellectual labour; but we must also maintain that he has not even begun to show himself an architect in the proper sense of the word. He has but built the scaffold, which is an essential means to the end. He only can claim to be considered an architect who has turned all these preliminaries to an artistic result. Nor, again, is it possible to deal with these several phases of the work of the architect as though they could be at any point detached or separated. So far, my metaphor of the scaffold is somewhat inaccurate. A scaffold is first erected in order that the building may be subsequently reared. In architecture the artistic aim must be an integral part of the primary conception of the design. It is sometimes held that the first step towards a design is to obtain a good practical plan, and to work from that towards an architectural result. Indeed, I have seen in print proposals that in competitions a plan should be arrived at by a preliminary process, and that in a second competition architects should be invited to show how they can turn such a practical plan into a work of art. The proposal of such a system appears to me to show an absolute ignorance of the genuine conditions of architectural design. It implies, in the first place, that the sole field of artistic design is limited to the elevation; whereas it should be obvious that no one of the three integers,—plan, section, and elevation, should be considered apart from the others. They are essentially the several aspects of what should be one coherent conception—simultaneously realised. It is probably the vulgar spirit of advertisement, which is the bugbear of the age and the enemy of art, that has led to such a misconception. It is because very many more see the exterior than the interior of a building that architects themselves are prone to dwell upon the elevation, and, so far as artistic aim is concerned, to let the plan and section shift for themselves. In a very large number of buildings, and those generally of the greatest importance, if one were bound to give a preference to any portion of the design,—which, as I have said, should be held to be essentially indivisible,—I should prefer myself to give it to the plan and section, first, because those who pay for and use the building have the first claim to consideration; secondly, because in some of the principal types of the great architecture of past ages interior effect is unquestionably the originating motive, to which the exterior effect is altogether subsidiary. Gothic architecture is hardly properly understood except by those who realise that it is the style of stone vaults. The result of these vaults, through a constructional necessity, is the presence of a complication of flying buttresses, which to me, so far as it is possible to detach oneself from the influence of a thousand delightful associations, are in themselves inimical to the dignity and repose of the exterior. If this seems a hard saying, I would point out that I have at least the authority of two of our greatest English architects. William of Wykeham, by one of the most powerful and revolutionary innovations of which we have any record, dispensed with flying buttresses in vaulting the nave of Winchester Cathedral; and Sir Christopher Wren, as we all know, in building St. Paul's from the Mediæval plan which was forced on him, buried his clearstory, so as to obtain lofty and unbroken side walls. If the latter instance be discounted on account of Sir Christopher Wren's well-known preference for Classical form, I would observe that in other cases, notably in some of his towers, he showed more real mastery of the essentials of Gothic design than many who have become famous by an exclusive following of Mediæval style, and that, whatever his leanings may have been, he is at least no mean authority as to the elementary conditions of architectural effect.

And there is still one thing further to be said in this connexion. The interest of the exterior design is to a large extent conditional upon the extent which it expresses the interior. It bears to the interior something of the same relation that the body bears to the spirit, which it partly expresses and partly conceals. An exterior is never so attractive as when it reveals to the beholder much of the purpose and construction of the interior, while it arouses curiosity as to many minor points indicated rather than made clear. It is because in the type of Classical architecture which made the interior take its chance and placed it at the mercy of such a formal exterior as was considered of paramount importance that we have become so intolerant of this school in spite of the attractions of symmetry, proportion, and dignity, which were never more excellently displayed.

But to return from what has been a somewhat lengthy digression, we shall, I hope, all be agreed, first, that the artistic aim which should be the motive and inspiration of architectural design, and which alone raises the architect above the mere builder, should be inherent in the very earliest conception of the work; and, secondly, that there should be no severance in order between the three aspects of a design,—the plan, section, and elevation; that art must rule each in an equal degree and all together, and that if any preference is to be given, it should *not* be bestowed on the elevation; that the merit of a design will depend inevitably upon the degree in which all the elements of effect have been simultaneously conceived as parts of an indivisible and coherent whole.

We may now consider what methods of design may best tend to such a result. Of course the difficulty of attaining this will be in exact inverse ratio to the scope and compass of the individual architect's imagination, which, though a gift of nature and not therefore at his entire disposal, may nevertheless be nursed and developed in the course of practice, as well as immediately helped by the adoption of methods well adapted to the conditions of design. The first point, then, will be never to let any portion of a design be considered fixed until the whole has been realised. In dealing with a large and complex scheme, especially where the practical requirements are of im-

* A paper by Mr. Basil Champneys, M.A., read before the Architectural Association on the 6th inst., as elsewhere mentioned.

portance and intricacy, there is an undoubted temptation to make a plan and adopt it as a fixed condition of the design. The plan should, however, in its first conception be tested as to its capabilities both of interior and exterior artistic effect. The grouping which it involves should be checked by elevations, however rough, and no one feature should be considered as fixed until the whole effect has been satisfactorily understood. The aim should be to get the entire scheme, drawn no matter how roughly, into a thoroughly malleable state, so that it may be handled as freely as a sculptor handles a mass of clay. No one feature or arrangement should be considered settled until it has been made to lend itself to a coherent result. If there is one word of advice more important than all others, I should word it thus, "Beware of fixed ideas." No doubt the operations involved are not easy. It is no small difficulty to make even the various plans of a building properly and constructively coherent. There is a great temptation when difficulties occur to resort to the mechanical contrivances which have, to those who consent to abuse them, made planning a comparatively easy matter. To my mind the absence of what I have called constructive coherence is entirely destructive of any true pleasure in a design. I can recall works of, at first sight, considerable merit in which I could take no permanent pleasure because of the absence of this quality. You sometimes go over a house floor by floor; the ground-floor is admirably planned, so are the upper floors; but a little closer study shows you that the upper in no way follows from the lower. You suspect concealed stanchions and girders, which on inquiry, are found to be present, and your pleasure in this building as an architectural achievement ceases,—a similar disappointment is felt when an exterior which has delighted you shows, on examining the interior, to have been forced, and to bear no direct relation to it.

To avoid such miscarriages as this, it is essential to make all your plans at one and the same time. This may be done by two methods. You may either make your upper plans on tracing paper set on the plan beneath, or, what is in some respects a better method, use pencils of different colours on the same sketch. There are disadvantges in both, and their comparative merits may be left to be settled by experience. Either method will enable you to plan all the floors simultaneously, and to give to the arrangement that constructive coherence which is the essence of good planning. You will not fail to see what are the weak points below. You can by modification of each and all make sure of sound substructure, and can, if necessary, as is often the case with large buildings, ascertain what weight per foot you have to put upon your masonry, and can thus arrive a a very early stage of the design at the necessary thickness of walls and piers, which often influences a plan more than one would anticipate.

But even while yon are seeing your way to the whole artistic result to which the practical has already had plenty to say, there is still another kind of consideration even more severely practical, and often harder to deal with than the former, which is that of estimates. It is a fatal thing to get launched upon a scheme which is in excess of the sum you are allowed to spend. The object should be, at the earliest possible stage of the design, to see how you stand in this respect. I have said that this operation is severely practical, and in a sense it is so; but in another sense it is an inevitable condition of an artistic result, as by such checks your whole position towards the development of your designs will be defined for you. One result, and one alone, is fatal to artistic effect, and this is to be compelled at the last moment to make a large reduction in your estimates, by cutting your building about after the design has been completed. A preliminary check will show you, either that you are attempting too large a scheme, in which case you will reduce it while it is in a malleable state; or, if this be impossible, you can decide to make severity your aim rather than richness, and the entire expressional character of your building will be defined for you at the outset.

This is a matter in which method is of the utmost importance, and will simplify what without it would be almost insuperable difficulties. I made it a practice for many years to have every building I put up cubed, found how much each cost per foot, and kept the result in a memorandum-book. It was comparatively easy to get very near the result from the roughest drawings of a new scheme, and you knew exactly to what sort of standard of cost you might develope with safety. The process can be still further simplified if your building is of uniform height, or sufficiently so to enable you to strike a fair average. You can then represent the price per cubic foot in terms of the area, and the check becomes more simple. Do not forget, however, to allow a margin, as the excrescences always mount up to more than you anticipate; and begin checking as soon as ever your drawings admit of it, and before you have allowed any "fixed idea" to take hold of you. This will save your time and temper.

We will suppose, however, that these preliminaries have been accomplished, and that you have on paper rough drawings of your scheme, all the general effects realised, the proportions, exterior and interior, settled, and the construction worked out, to a small scale. The usual course in this case is to have the drawings completed, and handed to the surveyor for quantities, and no doubt sometimes this is inevitable; when it can be avoided, it is best, in my opinion, to take another line altogether; but this involves a further consideration of principle.

If, as we said, no severance can be made between plan and elevation, scarcely more can be shown to exist between general design and detail. The development of the individual features may often involve serious changes in the general arrangement. It must be a matter of constant experiment to those who work on the usual lines to find how gladly they would have felt, when working out the detail, that they had been left unhampered by the general drawings. The possibilities of a building are only realised by degrees. While working on a larger scale, the architect inevitably sees chances of effect for the first time; and if his general drawings are fixed, he may often have to forego results which he would gladly have realised. My own almost invariable custom is to work out all details to ½-in. scale before the ⅛th. scale working drawings are put in hand to complete. It may be said that this will take more time than can be allowed, and this is sometimes the case. But I find by experience that the difficulty can generally be got over. Probably, before you begin to take up the detail you can settle your plans sufficiently to get a contract for the foundations; and while these are in hand you ought to have time to get your ½-in. scale drawings at least sketched. Then the ⅛-th. scale drawings can be finally fixed. They will be fifty times more accurate than they could otherwise have been. All sorts of questions during the execution of the work, which would otherwise have been inevitable, will be saved, your correspondence will be diminished more than half, and what is not of least importance, the surveyor will know exactly what to "take" instead of having to seek safety in an ample margin; and your estimates will be proportionally reduced. As an example, I lately commenced a building of considerable size and great complexity, and my client was eager to begin. I asked for four months to enable me to start; then I had a contract for the removal of a mass of soil, which took three more months. A further contract for laying the concrete, in that most delightful of forms, one slab over the entire site, gave me another three months, and this gave me time enough to develop the design in all essentials, and what is of the greatest importance, to put it entirely aside for a month or two at a time, so as to go back to it with fresh eyes and overhaul it almost as if it had been somebody else's. If even this had not given me time enough, I was prepared to give a third contract for the basement, and gain another six months thereby for further rumination. In fact, in this case, I could without any delay have had over a year to finally mature the design, and I think it will be found by experience that the method I have described will generally give time enough in proportion to the size of the building.

It is impossible to insist too much on the necessity of time for design—especially for detail. Though I believe that it is usually better that the general idea should be realised rapidly, as it will then be more likely to have unity and coherence, it is most important not only to have ample time to work out the detail, but it is no less important to be able to get entirely outside your own ideas. We have to be our own critics—such of us at least as are not blessed with an *alter ego* as friend or partner, and we cannot criticise our own work while we are possessed by it. Therefore time is of the essence of design.

You may ask, perhaps, how the intervals are to be filled up? Well, a change of work from large to small, from secular to ecclesiastical, or *vice versâ*, will often give what is equivalent to relaxation; but even if such change does not come to hand, you may write a paper for the Architectural Association; and there is always the pleasing alternative of taking a holiday, which you may often indulge in with a full certainty that you are doing better both for yourself and your design than by trying to force it, and thereby getting stale. It does not do to have the same scheme constantly before you.

Or, again, if at the inception a design does not come readily, after you have done enough thoroughly to realise the conditions of success, put it aside and do not think about it. After an interval, during which your mind has never consciously touched it, you will often find that the task, which was stubborn and hard, has become easy. I am not psychologist enough to explain the process. It is due, I suppose, to what Mr. Herbert Spencer calls unconscious cerebration; but of the fact I am as convinced as it is possible to be of anything so intangible as a mental process.

One point which may occur to you to ask is how far assistants can help you in the processes I have described. This, I think, must be a matter for individual experience. I know that some few architects find that they can keep their minds more active if their hands are free, and if so they may very legitimately use help throughout, so long as the origination is entirely their own. For my own part, I find that it is best to draw oneself to all scales, and even personally to draw all the details full size. It may take longer, but it certainly leaves one a freer hand to alter and improve. Doubtless it limits the amount of work which can be undertaken; but I am more and more convinced that "quality not quantity" should be a primary maxim of the architect, and indeed of all artists.

In drawing full-sized detail, coloured pencils will be of immense assistance. In, for example, complex plans of columns, you have the arch load, abacus, bell, necking, shaft, base, sub-base, and plinth, all bearing a distinct relation to each other, and all possibly taking somewhat different lines. It makes a drawing easy to work from if each of these is distinguished by a different colour. I have sometimes got as far as five coloured chalks; but this is necessarily only exceptionally. These pencils are useful, too, as I said above, for drawing plan over plan; and also other colours may be used for any iron construction needed, and I find it convenient to sketch on the plan in a distinct colour the conformation of roofs when they are at all complex, showing ridges, valleys, &c. Getting all you can on to the drawing makes it easier to realise a comprehensive result. It is more easily pulled about, and it is more easily read by a clerk of works.

As I think I may claim so far to have rigidly stuck to my brief, I may, perhaps, be allowed, in the presence of an audience mostly composed of my juniors, to say a few irrelevant words. We have got so far a few maxims:—Make art your aim from the first; Keep clear of fixed ideas; Take your time; and Quality before quantity. I want to add one more which has nothing whatever to do with my subject, and to beg you not to be too clever. It seems to me that there is no one thing which in the present day needs saying so earnestly and repeating so constantly, and this not alone in the domain of architecture. It is equally needed in literature and in music, to say nothing of the other arts. How constantly one's pleasure in much even of the best of contemporary literature is spoilt by the sense of excessive and self-conscious cleverness! How each phrase is coaxed into a form which is intended to arrest and surprise the reader, whereas the perfection of style is that every sentence should appear to be the most simple and direct expression of the thought. With what relief and pleasure, for instance, we turn from reading that most able yet most irritating of authors, George Meredith, to the straightforward, easy, and manly style of Swift or Fielding. I find precisely the same note of superfluous and detrimental cleverness in much contemporary architecture, and the same relief in turning from it to the great, sober work of older and less self-conscious ages. Depend upon it, whatever degree of ability or originality a designer may

have cannot fail to show itself in his work,—that there will be no need to strive or strain; that, if he simply aims at realising his conception by the most direct process, his work will stand best in the end. Those who understand the art, and whose opinion alone is worth considering, will, if they find that he knows enough for the immediate purpose of a particu'ar work, give him full credit for ampler knowledge.

It will not only be lost labour, but the ruin of his work, if he try to make any single design express more resource than is needed for its accomplishment. The laws of art no less than of morals are divided into the positive and the negative. "Thou shalt not" is at least as important in the artistic tables as "Thou shalt." Given a fair share of imagination, the designer will necessarily find that the task of rejection is no less considerable, and possibly more important, than that of acceptance; while the sense of ease, of simplicity, of directness,—the note of the Classical, in fact, in its widest and best sense,—will have a chance of being realised if work be handled in this spirit. Let it be remembered that any one design, however large and complex, must have for its basis one idea,—what the French call the "*idée mère*,"—and that all else must be subservient to this, or it is irrelevant and obstructive. If only the wish to be clever, the craving to be original, neither of which can be accomplished by taking thought any more than you can add half a yard to your stature, a desire most unwholesomely nursed by some of our critics, could be abolished, the prospects of architecture in England would, I believe, be very excellent. As Kingsley said to the little girl, "Be good, sweet maid, and let who will be clever." Cleverness and originality will take care of themselves if only goodness be made the exclusive aim of which the designer allows himself to be conscious.

[Some notes of the discussion which followed will be found in another column.]

LECTURES BY DR. A. S. MURRAY ON GREEK SCULPTURE:

I. THE NEREID MONUMENT.

DR. A. S. MURRAY, Keeper of the Greek and Roman Antiquities in the British Museum, has recently delivered three lectures to the students of the Royal Academy on Greek Sculpture. The lectures followed Professor Aitchison's six lectures on Byzantine Architecture, which we have printed in the last six numbers of the *Builder*.

Dr. Murray's first lecture, delivered on Monday, the 16th ult., began by a reference to the building which we conveniently called the Nereid monument, which stood on a height about a mile from the ancient city of Xanthos, in Lycia. It stood on a cliff separated by a ravine from the acropolis or citadel of Xanthos, and overlooked the river Xanthos. The district was particularly beautiful, as we knew from the sketches of Müller, and the position of the monument must have added to the charms of nature. But one day, under the shock of an earthquake, the Nereid monument tottered on its base and fell in ruins, burying beneath them part of an early Christian village which had sprung up, apparently about the fourth or fifth century. From that time the spot seemed to have been abandoned to a waste of brush and shrub till the year 1838, when Sir Charles Fellows, in his zeal for exploring, visited the site. Convinced that much of the sculpture was still to be found under the ruins, he prevailed on our Government to furnish him with the means of excavating and removing to London such examples of the sculpture and architecture as he might find. That he was able to do in 1842-3. On their arrival in London these sculptures excited great interest. Gibson came from Rome and wrote an appreciative article on them. Then arose the questions how to reconstruct the ancient building, where to place the sculptures, and how to dispose the architectural members. With abundance of skilled assistance from the architects and artists of the day, Sir Charles Fellows was able to construct a model which had stood the test of criticism very well. Lately the lecturer had had occasion to look into these matters, and was glad to bear testimony to the skill and patience of Sir Charles Fellows. A room in the British Museum having become available for a new arrangement, the best thing the lecturer could think of was to place in it the Nereid monument. The new room happened to be just the size that was required, and the work was now complete. The Nereid monument belonged to a class of buildings which looked like temples, and yet could not have been used as such, for the good reason that they were erected on high basements or pedestals, which prevented access to the buildings themselves. It was a class of building which seemed to have enjoyed great favour in that southern part of Asia Minor. An example still stood at Mylassa, in Caria, but the finest and greatest of them all was the Mausoleum at Halicarnassus. Since the Mausoleum was in the first instance the tomb of Mausolus, and in the second a monument to his memory, it might be concluded that the other structures of the kind in that district had also served at once as tombs and as monuments. Their resemblance to temples was not accidental: it was intentional. In Greece proper it was a recognised principle that a tomb should in some measure have the aspect of a temple. But the principle was not carried so far as in Lycia, where innumerable tombs were to be seen cut into the solid rock, and having each the appearance of a small shrine. On the plains stood numbers of lofty tombs. The Lycians might be considered as consisting chiefly of a native race, with leanings partly to Persia in the east and partly to Greece in the west. There were also in Lycia a number of Greek settlers who presumably fostered and encouraged the Greek inclinations of the rest. Against these influences was the enormous force of the Persian empire, exercising the right of a superior over Lycia, requiring tribute, and enforcing as much submission as could be got. Occasionally the Lycians rebelled and fought hard for their independence. Occasionally, single towns like Xanthos broke into revolt, and were assailed by the Persians with assistance from other Lycian towns. Circumstances like these had to be borne in mind when endeavouring to understand the sculptures of the Nereid monument, which need not necessarily have been the tomb and monument of one man, as was the Mausoleum; most likely it was a monument to men who had fallen in some victorious war by land and sea. The sculptures pointed clearly in that direction, and so far Sir Charles Fellows was right in the name he originally gave to it, "the Ionic Trophy Monument." In adopting the now current name it was not of course implied that the building was the tomb and monument of the Nereids, for the Nereids were beings who needed no tomb: they never lived nor ever died. The present name was merely a stop-gap, meant to characterise the building by naming it after those female statues in the intercolumniations which were, in fact, its principal feature. So long as those statues were believed to represent Nereids, so long would the name of "Nereid monument" have as good a claim as most names had. Turning to an examination of the sculptured friezes on the base of the monument,* the lecturer said they obviously represented some historical incident such as the capture of Xanthos, or some other city, by the Satrap Harpagos. Describing in detail the various groups, he said that the influence of the Parthenon frieze was apparent, and there were also motives which reminded us of the Phigaleian frieze. It might be mere accident that the height of the Nereid frieze was the same as that of the Parthenon; but it could hardly be an accident that the treatment of the relief was the same in both,—in this important particular, that every figure was studiously presented to us in the lowest possible projection. This was carried to excess in the Nereid frieze. For instance, when the leg of a horseman hangs below the belly of his horse, and was therefore some distance out from the background of the slab, there was no attempt to round off the foot and leg. On the contrary, the surface was as nearly flat as possible; the marble behind it was merely cut away enough to obtain some shadow for the contours. Looked at sideways it had a rough unfinished appearance. As to the date of the sculptor of the Nereid monument, he had evidently lived in the thick of the combined influences of the older idealism of Pheidias (as seen on the Parthenon) and of a new movement which had for one of its chief features a display of much drapery and at the same time so employing that drapery as to reveal the forms beneath it. That movement, it might be said with next to certainty, ran its course in the period 438-400 B.C. Its seat and centre was Athens. It must have been almost a fascination for a sculptor to render a figure in rapid motion with long thin drapery clinging close round one leg and then falling in long, crisp, beautiful folds as it stretched to the other leg. Though there was naturally a tendency to excess in the rendering of these folds of drapery, the sculptor seemed to have been aware of that tendency, and to have counteracted it by a corresponding display of nude or smooth forms, such as the shields of the fighting men. In the matter of architecture, it had been pointed out by others that the Nereid monument had certain significant features in common with the Erechtheum on the Acropolis at Athens. The date of the Erechtheum fell exactly in the period he had mentioned,—438-430 B.C.,—and it was therefore not very hazardous to suppose that the Nereid sculptor had been well acquainted with this and the other buildings which had just been or were still being erected in Athens. The statues of the Nereids were an organic part of the monument,—the most noticeable part of it, in fact. The idea was peculiarly happy. But what could have led up to it? The only thing the lecturer could think of as an answer to that question was the porch of the Caryatids of the Erechtheum; in the latter, draped figures served as columns; in the former they served as companions of columns. The figures of the Nereids were, so to speak, one remove further away from columns than the caryatids. But they had this in common also,—that they were all sisters and all of a uniform type, which gave them a certain architectural character in common with the caryatids. Gibson preferred to regard these statues as personifications of coast towns of Lycia and the neighbourhood, allied together for a common purpose; but by general consent they were Nereids. Many other interesting points as to the Nereid monument were discussed by the lecturer, who concluded by expressing a hope that in its new place in the British Museum the monument might become the object of renewed attention and study.

* There are two friezes,—the one broad and low down on the base, the other narrow and placed along the top of the base

II. THE TEMPLE OF NIKÈ APTEROS, ATHENS.

Dr. MURRAY'S second lecture, delivered on Thursday, the 19th ult., was devoted to a consideration of the Temple of Nikè Apteros (Wingless Victory) at Athens. The name of the temple, said the lecturer, was undoubtedly ancient, and was used by the Greek traveller Pausanias; and yet it seemed singularly inappropriate when almost the first features of the temple to impress us were its sculptured figures of Victory, which were anything but wingless; they were, indeed, conspicuous by their wings. But the temple had also another name, that of Athena Nikè, which would mean a manifestation of the goddess Athene in the character of Nikè or Victory. It was, in short, a temple of Victory, by whatever other epithets it was specified from time to time. Having described the curious position of the temple on the jutting piece of rock in front of the Propylæa,—an irregularity which was purposely retained, as the jutting piece of rock was hallowed by the legend that on it sat King Ægeus watching the distant sea for the return of the ship which he had dispatched to Crete conveying his son Theseus, with other human victims whom he was obliged to send as a tribute to Minos, the King of Crete,—the lecturer said that the Temple of Victory was seen standing in the early part of the seventeenth century, when two travellers,—one a Frenchman, the other an Englishman,—visited Athens. But they hurried past it with only a few words, being eager to get to the Parthenon. Their remarks conveyed nothing as to the state of the building, which was much to be regretted, because not very long after, the Turks, who then had possession of Athens, and who were in fear of an attack from their enemies, the Venetians, set about erecting a great bastion across the front of the Propylæa. The Temple of Victory stood in their way. They threw it down and employed its stones and sculptures in the formation of the bastion. There the stones and sculptures lay. The Temple of Nikè had passed out of sight and apparently out of mind till the beginning of the present century, when Lord Elgin's artists found four slabs of the frieze and sent them to London to the British Museum, where they still are. But again a period of indifference set in, and nothing more with regard to the Temple was done until 1835, when the old Turkish bastion was pulled to pieces and the Temple of Victory restored, as it now stands, from the

marble blocks and sculptures found built into the bastion. The restoration was not nearly complete; a good deal of structure and much of the sculpture were missing, but in a way we felt that we had the Temple before us when we ascended the Acropolis. The sculptures that had suffered most were those which formed part of what was called the balustrade of the Temple. Between the Temple itself and the abrupt edge of the platform, where the space was narrow and dangerous, it had been necessary to provide some protection for those who might care to pass round the building for the sake of the incomparable view, if for nothing else. A metal railing would probably be our notion of the best way to have prevented accidents; but the Athenians preferred a low wall of marble nearly breast-high, richly sculptured on the outside. The Temple was of the Ionic order, with four columns at each end, but none along the sides. The frieze was sculptured, but whether there were sculptures also in the pediments it was impossible to say. One of the difficulties in connexion with this Temple had been to ascertain its date and the circumstances under which it was erected. Was it at the conclusion of a successful war? One would think so, and yet we could not see what need the Athenians had for any special temple to Victory when they had already the Parthenon to serve as a perpetual monument of their success in war. But we read of their success in war subsequent to the building of the Parthenon, and we knew that the Temple of Victory must date from that subsequent period, judging by the style of the sculptures and by its architectural features. What, then, could be more simple than to conclude that the Temple of Victory had been erected as a special memorial of a subsequent war, and as a sort of auxiliary to the Parthenon? The theory sounded quite reasonable, and yet it was unsatisfactory without some further explanation. We still wanted to know why the new Temple was placed in such close proximity to the Parthenon and on that particular site. Pausanias had left on record that he had seen at Mantinea a statue of victory the work of the Athenian sculptor Calamis, and that Calamis had, in that statue, reproduced the image of Nikè Apteros in Athens. But seeing that Calamis lived long before the building of the temple of Nikè Apteros as we knew it, there must have been an older Temple of Victory at Athens which contained the image in question. What was more likely than that the older Temple has stood on the same rock as the present temple? It could only have been a small shrine, possibly smaller than the present little temple. But when the Persians took and destroyed the Acropolis of Athens that shrine would be the first to fall; and when, after the Persian devastations, the Athenians set about restoring their Acropolis in greater splendour than ever, they would include in their plan a new shrine for the old goddess of Victory. The restoration of the Parthenon was their first care, then followed the Erechtheum, the new Temple of Victory, and the Propylæa. Although there might be some surmises in that theory, it was not entirely built up on surmises. The lecturer expressed his inability to agree with Professor Benndorf, who took the present temple to be, in fact, the old one which contained the image of Nikè copied by Calamis. But the sculpture and architecture were manifestly later than the Parthenon. It was another question whether the masonry which now appeared to form a high basement for the temple, but which in in reality forms a casing round the rock on which the temple stands, was part of the original plan, or whether it was not constructed some years later to connect the Temple in a manner with the new Propylæa, and to obtain as harmonious an effect as was possible in the circumstances. The lecturer believed that that was the general opinion now; and, in fact, it was clear that the apparent basement had no organic connexion with the temple above it. Those parts of the balustrade which had survived represented chiefly the goddess of Victory. Some fragments clearly belonged to Athene herself, and could easily be restored as such, but the most completely preserved figures were those of Victories erecting trophies, leading cows to sacrifice, or stooping in haste to fasten a sandal. Had they been exceptional figures in the composition, it must have been a curious fate that had preserved them, and them alone; it was more likely that these figures of Victory which had survived were types or representatives of those which had perished. The difficulty was to imagine what could have been the effect of long lines of Victories, always winged and always presenting the same type which we found in the slabs that existed. Having noticed Professor Kekulè's suggested "restoration" of the balustrade, with which he disagreed, the lecturer said that as the Victories were all of one kindred and had a common purpose, but no combined action, he should propose to break up the composition into groups by means of pilasters, and leave each group to speak for itself, like a series of metopes. The balustrade would thus present something of the character of a metal or wooden barrier with upright posts at regular intervals; and, in fact, the tops of the slabs showed that there had been metal-work above the marble. But he confessed that while his proposal would dispose of many difficulties which had hitherto proved insuperable, we had at present no direct evidence in its favour, nor any certain analogy in Greek art which could be cited in support of it. They had, however, in the Museum a set of marble slabs, with reliefs sculptured within sunk panels. Those reliefs came from the Mausoleum, but where they originally were placed on that building had never been ascertained. The frieze of the Temple itself was, it would seem, by a different sculptor, and had been fairly well preserved. The Museum possessed one slab from the north side, one from the south side, and two from the west end,—the two latter forming nearly the entire length of the west frieze. The composition was clear enough on the whole, though the exact meaning on some points might be obscure. The style of the sculpture was at once recognisable as pure Athenian, of the age that followed immediately after Pheidias and the building of the Parthenon. Three of the sides were occupied with battle scenes, in which Greeks were opposed to Persians or Asiatic Greeks, wearing the long thin chiton, as on the Nereid monument. The fourth side, which occupied the front of the temple, presented us with an assembly of figures more or less in repose. We knew that these figures represented deities, but we could not tell what was the occasion for that meeting of deities. In conclusion, Mr. Murray discussed the figures and groups of these friezes, pointing out resemblances to and divergences from the Parthenon frieze.

III. REPRESENTATIONS OF VICTORY.

DR. MURRAY'S third and concluding lecture of the present series was delivered on Monday, the 23rd ult., on the subject of "Representations of Victory." He said that the representations of victory which had survived in Greek sculpture referred mostly to war, by land or by sea. Their variety was manifold. We saw Victory erecting a trophy, slaying an ox in sacrifice after a battle, standing on the prow of a ship, holding in her hand a model of a ship's prow, or in other ways clearly indicating the successful issue of a war. But the Greeks also recognised that "Peace hath her triumphs no less renowned than war," and he would begin with an illustration of that fact. At first sight there was not much difference between contest on the field of battle and the contest of Heracles with the Nemean lion. Still, there was a difference, because in the contests of Heracles with monsters such as lions, wild boars, and hydras, it was not so much the actual encounter that was thought of as the underlying sense of the great service he had rendered in ridding the country of such pests. His actions belonged to the triumphs of peace. Heracles had slain the Nemean lion and stood resting after the encounter, eager for the drink of cool water which the nymphs of the wells at Nemea brought and held out to him. When he had been refreshed he would strip the lion of his skin and would thereafter wear that skin as his regular attribute or cognisance. Meantime, while he was reaching forward for the water, a Victory appeared in the air above, holding out a wreath. In illustration of this point, the lecturer referred to a diagram which had been enlarged from a Greek gem lately acquired by the British Museum. The date of the gem would fall a little before 400 B.C. The manner in which the subject was treated in that gem had some special points of interest. The instances in which the contest of Heracles with the Nemean lion was represented in Greek art were very numerous; but, besides the gem referred to, the lecturer said he knew of only one other instance in which Heracles stood resting with his foot on the dead lion. That other instance was found in one of the metopes of the Temple of Zeus at Olympia. The metope in question had been much broken and injured. Part of it was in Paris, in the Louvre; parts in Olympia; and parts missing. The missing parts were just those where the vase held out by the nymph, and the Victory in the air above, as seen on the gem, would come in; and it would be very curious if the gem should lead to a correct restoration of so important a piece of ancient sculpture as the metope of Olympia. The group on the gem looked very much as if it had been originally conceived for a square metope. Not that the lecturer wished to suggest that the gem had been directly copied from the metope. Greek craftsmen had too much skill, and were too fertile in imagination, to make direct copies. On the gem, Heracles held out both his hands; on the metope he rested his head on one hand with his elbow on the upraised knee. But that variation did not exclude a more or less exact coincidence in the other parts of the composition, It was possible that in the Olympian metope there might have been no "Victory" in the air above flying with a wreath; but the presence of the Victory on the gem was interesting, because it reminded us of another kind of triumph which belonged more strictly to the realm of peace. In the games at Olympia, the contest which carried with it the greatest honour was the chariot race. Poets, sculptors, and painters celebrated the winners in that race, and among the prominent men thus celebrated was Hiero, a Prince of Syracuse in the early part of the fifth century B.C. His praises as sung by Pindar we still possessed; we read of the chariot group which was set up at Olympia to commemorate his victory, and we had many specimens of the silver coinage which he caused to be struck for the same purpose. Now on those coins we saw a chariot and four horses, and above the chariot a Victory flying with a wreath in her hand and very much resembling the Victory on the gem. The Victories on these coins were nearly the oldest representations of the goddess that we possessed; apparently she had not come into art in early times. The idea of Victory had of course been long familiar, but it had not taken artistic shape till art had advanced to such a degree of skill that it could conceive and represent her under a type which remained constant for all time. That was not at all surprising. The same was the case with Eros, the god of love. There also the idea had been familiar from the beginning of time, but it did not take a place in Greek art till a comparatively late period. Artistic ideas had what naturalists called a "life-history," and in some instances that life-history strikingly reminded us of the butterfly bursting into full life out of a previous stage of existence as a caterpillar. So it was, apparently, with Victory. We must look for her previous stage among the customs which had prevailed from time immemorial in commemorating success in war. The first thing the Greeks did at the close of a successful battle was to erect a trophy on the battle field. They fixed in the ground the stump of a tree, placed on the top of it a bronze helmet, lower down a cuirass and shield, and still lower down a pair of greaves, so that the whole had the aspect of one of the enemy dressed in the array in which he had fought. That was the ordinary practice. When a trophy had been erected, the spoils were gathered and brought home. The armour and weapons which had been taken from the enemy were partly exhibited in temples, and partly converted into statues of the deities who were believed to have aided in the victory. In naval warfare it was, of course, impossible to have a trophy on the spot of battle. But those parts of the enemy's ships which had been made of bronze, such as the prow with its ram, or the bronze ornament of the stern, called the *aphlaston*, were collected and converted into monuments to be placed in temples, or in parts of other public buildings, such as porticoes, which were much frequented. There was no law as to the form those monuments should take. For instance, the Æginetans, who had been proclaimed the bravest of all in the famous battle of Salamis, chose to send as their memorial to the temple at Olympia a mast surrounded by three golden stars. There was a drawing by the late Professor Cockerell, in which he sketched his notion of the monument; he took the words of Herodotus literally, and showed us a mast with three stars on the top. But the lecturer doubted whether Herodotus meant by a mast a mere upright

pole. A mast to him would include a yard and some indications of rigging. It could not otherwise suggest a ship or a naval battle. Very likely the three golden stars had been placed one on the top of the mast and one at each yard-arm. In the matter of monuments, the land forces had the advantage over the sea forces in being able to raise a trophy on the field of battle; but when it came to a commemorative statue, the land forces were at a disadvantage. A statue of Apollo or Athene holding a helmet or cuirass, or a handful of swords or spears, was almost an impossibility. It would not have been intelligible for one thing; they would have been taken to be simply gods of war. But an Apollo or an Athene holding out a model of the prow or stern ornament of a war-ship, there was no probability of a mistake there. The statue would clearly be commemorative of a naval victory. Having described several representations of "Victory" in sculpture,—including the two famous statues of Pheidias at Olympia and Athens, each representing the same idea of a great deity holding out in the hand a "Victory" starting or ready to start on a message of divine approval,—the lecturer concluded by describing some further instances of the representation of Victory on antique engraved gems.

COMPETITIONS.

THE SOUTH KENSINGTON MUSEUM.—It is announced that the authorities of the Science and Art Department have issued instructions to competitors for the completion of the South Kensington Museum buildings. The competition will be limited to eight architects, viz., Mr. Aston Webb, Mr. T. E. Collcutt, Sir Thomas Deane, and Mr. Macartney, nominated by the Government; Mr. J. Belcher, Mr. Bodley, Mr. W. Emerson, and Mr. T. G. Jackson, nominated by the Institute of British Architects. The designs are to be delivered in July, and each of the competitors will receive a sum of 300 guineas. The professional adviser will be Mr. Alfred Waterhouse, R.A.

MORLEY TOWN HALL.—At a meeting of the Morley Town Council on the 3rd inst., in committee, the Mayor (Alderman J. Hill) presiding, the Council considered the competitive plans for the new Town Hall, which it is proposed to erect at a cost not exceeding 15,000*l.* The awards were as follows:—Messrs. H. Holtom & G. A. Fox, Dewsbury, 100*l.* premium; Messrs. Morley & Woodhouse, Bradford, 50*l.* premium; Mr. W. Hanstock, Batley, 25*l.* premium. The plans of Messrs. Holtom & Fox were adopted.

SOUTH-WEST LONDON POLYTECHNIC INSTITUTE.—A meeting of the Council of the South-west London Polytechnic was held at Grosvenor House on the 6th inst., at which a design for the building was selected from eight sets of drawings sent in in competition. Mr. Rowland Plumbe is the consulting architect, and the author of the selected design is Mr. J. M. Brydon, while Messrs. Karslake & Mortimer, and Mr. A. J. Bolton, are placed second and third. The building, which will be erected in Chelsea, is to cost a sum of 25,000*l.* To complete the committee's scheme, which involves a total capital of 100,000*l.*, the sum of 17,000*l.* is still required. The plans are now publicly exhibited at the offices of the Institute, 47, Duke-street, St. James's.

ROYAL ACADEMY EXHIBITION.

As in former years, we shall be glad to deliver at the Royal Academy any drawings which may be sent to us in time to be photographed before sending in.

We must point out, however, that such drawings must be accompanied by the proper labels required by the Academy, with title of work and artists' name, one on back of the frame and one hung to the frame, as well as a letter addressed to the Secretary of the Royal Academy conveying the same information.

ST. ALBANS CATHEDRAL.—In the description of this cathedral last week, the words "eastern tower of the Norman church," should have been "eastern arm of the Norman church."

Illustrations.

COMPTON WYNYATES.

COMPTON WYNYATE, or Wyniates, as perhaps it is more usually called,—though there are many other accepted forms of spelling, the most common of which, perhaps, is that given in the head-line above,—derives it name from some noted vineyards that here flourished. The house belongs to the Marquis of Northampton.

Perfectly situated in a luxuriantly-wooded hollow at the foot of the Edge Hills, in Warwickshire, rich in tone and mellow colour, interesting in detail and pleasing composition, it forms one of the most fascinating subjects for the architect, artist, or archæologist now existing.

It was built by Sir W. Compton about 1520, as fixed by the county historians; a date which may be approximately arrived at by a careful examination of the beautiful front porch, where will be noted the rose and portcullis of the Tudors, the castles of Castile, and other symbols. Anterior to this date, Sir W. Compton was "Keeper" of Fulbrook Castle,—several miles north of Wynyate,—and, it is said with the sanction of the King, he pulled this place down, and built Compton, using again the major part of the materials. There is ample evidence of such a transcript having been carried out.

The many and curiously-disposed stairways bear witness of troubled times; and the small secret chapel, forming the saddle-back of the main tower, is an object of great interest in itself, and is practically riddled with doors and hiding-holes. It is entirely panelled in oak, and parts are richly carved. It should not be missed in a visit to Compton.

The buildings are formed round a small court, 57 ft. square. To the left, on entering, is the chapel, without any general interest. The glass of the east window is now at Oxford, being sold after the "Great Election," when three fortunes were squandered. The dining-room is next, with drawing-room over, and the barracks over all, some 130 ft. long. (The house was garrisoned by Royalists, and King Charles himself slept here before the battle of Edge Hill, 1642.) Proceeding to the front or west side is the Great Hall, with other entertaining rooms beyond, and the main staircase, by Sir Digby Wyatt. To the right are the offices.

The materials are deep red 2¼ in. bricks, with yellow limestone dressings and stone slates. The special moulded bricks of the chimney stacks are a marvel of fine and intricate workmanship.

The distance of its situation from any station has kept it little known. Kineton is the nearest, but for the passing visitor Banbury is the most convenient, and is about ten miles distant. Sketching permission is freely given on proper application, and visitors are ungrudgingly conducted over almost every corner of the house. HEBER RIMMER.

We may add to Mr. Rimmer's description that this is the set of drawings which gained its author the Institute "silver medal and ten guineas." As they were considered a very good set of drawings of the kind, and form a record of a very interesting old house, we have given them complete in one number; necessarily with considerable reduction of scale, but we thought it preferable to give them complete within the space available, rather than to break up the set.

ARCHITECTS' BENEVOLENT SOCIETY.

THE annual general meeting of this Society was held on Wednesday afternoon last, in the Council-room of the Royal Institute of British Architects, Mr. Alfred Waterhouse, R.A., President of the Society, in the chair.

The Hon. Sec. (Mr. William H. White) read a letter from Mr. W. M. Teulon, of Leamington, enclosing a cheque for 10 guineas. A special vote of thanks was accorded to the donor.

The Hon. Sec. next read the report of the Council, as follows:—

"At the last annual meeting it was resolved that the 'Red Book' should be issued, not only to all the contributors to the Society, but to every member of the Royal Institute of British Architects: this was duly carried into effect. Although your Council regret to state that the Society did not receive many additional contributions during 1890; yet, as a result, the donations received and the new subscribers for the year 1891 have far more than repaid the cost of the larger issue. That more satisfactory results will follow from the wider publicity given to the objects of the Society may reasonably be hoped.

During the year 1889 an extraordinary increase to the capital was received,—namely, 500*l.*,—from Mr. Robert P. Page, for which due acknowledgment was made in the last report; but exclusive of that amount the donations for 1889 exceeded those of last year. The subscriptions, on the other hand, show improvement, even if but slight. In 1889 the total amount of subscriptions was 314*l.* 18*s.* In 1890, 317*l.* were received, and, consequent upon the larger issue of the 'Red Book,' several more members of the Institute have become subscribers for the year 1891. The hope expressed in the last report, that subscribers whose subscriptions for 1889 had not been received would renew them, has, your Council regret to state, not been fulfilled, and they would urge upon these gentlemen, especially those,—and they are not few,—who have aided in the work of the Society for some years, to continue their subscription to the Society, which is the only one existing for the sole benefit of those of their profession upon whom misfortune may fall.

Six meetings have been held by your Council during the past twelve months; three pensions of 20*l.* each have been paid; and 332*l.* have been granted to twenty-three persons, while the applications for relief numbered thirty-eight. The donations received during the year amount to 30*l.* 5*s.*, the following being the principal donors:—The late E. C. Ayton-Lee (bequest), Mr. Alfred Aitchison, Mr. C. R. Baker King, and Mr. W. Hilton Nash. The Leicester and Leicestershire Society again give a donation of two guineas, and the Architectural Association continue their subscription of ten guineas.

The invested capital now amounts to 7,878*l.* 9*s.* 10*d.*, which includes 452*l.* 7*s.* 6*d.*, the cost of 350*l.* Caledonian Railway 4 per Cent. Debenture Stock, purchased in 1890. The capital is thus still far below 10,000*l.*, the amount many well-wishers to the Society have desired it to attain.

The income account and balance-sheet for the year ended December 31, 1890, duly audited, are herewith submitted.

The amount distributed in grants is considerably less than last year, partly on account of fewer applications, and partly from the determination of the Council not to foster the appeals of persons who have become mere begging-letter writers. The Council thus hope to be better able to assist those to whom aid will be of permanent service, and to more effectually relieve temporary embarrassment.

Your Council regret to have to announce the decease of Mr. E. C. Ayton-Lee, who had been a contributor since the year 1872, and who evinced the continuance of his goodwill towards the Society by a bequest of 25*l.* The decease of Mr. Richard A. Hill, of St. Leonards, has also to be announced. Mr. Hill had been a subscriber since 1883.

The following members of the Council retire by rotation, namely:—Mr. G. P. Raggett, Mr. George Inskipp, Mr. R. H. Carpenter, F.S.A., Mr. E. B. l'Anson, M.A., and Mr. J. Alfred Gotch. To fill these vacancies, your Council have the pleasure to nominate Mr. J. Macvicar Anderson, Mr. Henry Cowell Boyes, Mr. Fred. Chancellor, Mr. Rowland Plumbe, and Mr. Augustus W. Tanner—all of whom have consented to serve if elected.

In conclusion, your Council cannot refrain from expressing a hope that the claims of the Society will receive more consideration and support, not only from the members of the Royal Institute—the number of whom who are subscribers being but a small proportion of the whole—but also from the members of the profession generally, especially those practising in the provinces—as the Council have been enabled in past years to afford effective and much needed aid to provincial architects whose distressful needs have been brought before them."

On the motion of the Chairman, seconded by Mr. T. M. Rickman, the report and balance-sheet (presented therewith) were unanimously adopted.

On the motion of Mr. Arthur Cates, seconded by Mr. Wyatt Papworth, a vote of thanks was accorded to the retiring members of the Council, on whose behalf Mr. Inskipp replied.

On the motion of the Chairman, seconded by Mr. Raggett, Messrs. Macvicar Anderson, H. C. Boyes, F. Chancellor, Rowland Plumbe, and A. W. Tanner were elected new members of the Council.

Mr. Arthur Cates was, on the motion of Mr. Rickman, seconded by Mr. W. M. Fawcett (of Cambridge), re-elected Hon. Treasurer. In returning thanks, Mr. Cates said he wished the duties of the post were more onerous than they were: the Society ought to receive at least 1,000*l.* a year in subscriptions.

Mr. William H. White was, on the motion of Mr. Arthur Cates, seconded by Mr. Raggett, re-elected Hon. Secretary.

On the motion of the Chairman, seconded by Mr. George Scamell, a vote of thanks was accorded to the retiring auditors (Mr. John Hebb and Mr. W. Hilton Nash); and on the

motion of Mr. Inskipp, seconded by Mr. Fawcett, Mr. Geo. Judge and Mr. F. W. Hunt were elected auditors for the current year's accounts.

A vote of thanks was (on the motion of Mr. Rickman, seconded by Mr. Henry Lovegrove) given to the Institute for the use of its rooms; and a vote of thanks to the Chairman (proposed by Mr. Arthur Cates) brought the proceedings to a close.

THE LONDON COUNTY COUNCIL.

THE London County Council commenced its weekly meeting on Tuesday last at noon (three hours earlier than usual), and sat until 7.15 p.m. (with an interval of fifty minutes for luncheon). The Chairman, Sir John Lubbock, presided.

The Costermongers of Whitecross-street, and the late Metropolitan Board of Works.—The General Purposes Committee brought up the following report:—

"We are now able to report the result of the inquiry which we have made, in pursuance of the resolution of the Council of Feb. 11, 1890,* instructing us to investigate, as affecting the Solicitor's and Architect's Departments and the District Surveyor, the circumstances set forth in the report of the Housing of the Working Classes Committee with regard to the conveyance by the late Metropolitan Board of a piece of land in Whitecross-street with the object of accommodation being provided for costermongers. After a thorough and exhaustive inquiry, in which we have been materially aided by a sub-committee appointed by us to consider the subject, we have arrived at the following conclusions,—

(*a*) That in the opinion of this Committee there was not sufficient supervision exercised on the part of Mr. Tarring, the inspecting surveyor in the Architect's department, over the erection of the costermongers' buildings in Whitecross-street; that important deviations were made in the structure and in the materials used without notice being taken by Mr. Tarring; and that the Committee, after making due allowance for the fact laid before them that he was working at the time under great pressure, are notwithstanding of opinion that Mr. Tarring neglected his duty and that his conduct is censurable.

(*b*) That the Committee, whilst recognising that the Solicitor's department performed its actual duty so far as concerns giving effect to the instructions of the late Board, and that, therefore, no blame attaches to that department as to the form of conveyance of the land in Whitecross-street, consider it probable that, if the Solicitor had explained to the Board the urgent necessity that there was both for ensuring that the persons to whom the land was conveyed were responsible persons and that the object of the Board's grant was attained, the present unsatisfactory condition of things would not have arisen.

(*c*) That the Committee have no opinion to express with regard to the action of the District Surveyor.

We recommend—

'That the Council do concur in the foregoing conclusions.'"

This led to a long and acrimonious discussion, in the course of which the report of the General Purposes Committee was denounced as lame and impotent, inconclusive, inconsequential, and evasive. It was asserted that by gross neglect in the Solicitor's department, a site worth 5,000*l.* had been made over to certain persons who were not the representatives of the costermongers. It was further asserted that the persons to whom the ground was conveyed had not observed the covenants as to the erection of buildings suitable for the needs of the costermongers, but had run up a jerry-built pile with bad bricks, and on bad foundations. The building was asserted to be so bad that even if the Council could reclaim the site, and re-enter upon possession, no outlay could make the present building suited to the wants of the costermongers. Successive amendments were moved, with the view of censuring the Solicitor, and of dismissing the clerk of works. As to the last-named, it was asserted that he must have been bribed; but in his defence it was urged that if he had not detected the malpractices of the builders, it was because he had too much to do, having had some forty buildings to look after at the time. Dissatisfaction was also expressed with the conduct of the District Surveyor. However, the report and recommendation of the Committee were eventually agreed to by a large majority.

The London Water-Supply Question. — The consideration of the special report of the Parliamentary Committee on this question was adjourned.

* See *Builder* for February 15, 1890, p. 119.

Proposed Supplementary Main Drainage Works.—The Main Drainage Committee reported as follows:—

"We have received the joint report of Sir Benjamin Baker and the Chief Engineer, prepared in pursuance of the instruction of the Council of December 17, 1889, upon the main drainage system of London. The report has been circulated amongst the members of the Council, and is receiving our careful consideration. We are not, of course, in a position at present to deal with all the important recommendations contained in the report, but as regards that portion of it which gives an approximate estimated cost of the proposed works for improving the existing system of main drainage on the north and south sides of the river, we are of opinion that these are of so urgent a character that no delay should take place in acting upon them. We therefore recommend—

'That detailed plans be prepared of the new sewers on both sides of the river as proposed by Sir Benjamin Baker and the Chief Engineer of the Council in paragraph 10 of their joint report upon the main drainage of London.'"

The consideration of this subject was also adjourned, after a very unsatisfactory explanation by the Chairman of the Committee as to the manner in which the report of the Engineers had been prematurely published in one of the daily papers.

After transacting other business, the Council adjourned until Friday next at 3 o'clock.

THE ARCHITECTURAL ASSOCIATION.

THE ordinary fortnightly meeting of this Association was held on Friday evening, the 6th inst., Mr. Leonard Stokes, President, in the chair.

On the motion of Mr. E. S. Gale (Hon. Sec.), a vote of thanks was accorded to Mr. Arthur Cawston, not only for permitting the members to visit St. Philips' Church, Stepney, of which he is the architect, but for his kindness in meeting them at the church and conducting them over the building.

Mr. Gale also announced that the next visit will take place on Saturday, March 14, to the Tower Bridge works.

The Chairman stated that a Committee, which, for want of a better name, would be called the Reorganisation Committee, had been appointed by the general Committee of the Association for the purpose of endeavouring to make arrangements for carrying out the work of the Association in connexion with the new curriculum. The new Committee consists of seventeen members, viz., Messrs. Armstrong, Baggallay, Brodie, Collard, Farrow, Fleming, Florence, E. S. Gale, Goldsmith, Gotch, Leverton, Millard, Pryce, Searles-Wood, Seth-Smith, Stokes, and Paul Waterhouse. Any members who have any suggestions to make on the matter are desired to communicate with the honorary secretaries.

Mr. Basil Champneys then read a paper entitled "Some Principles and Methods of Design," which we print on another page.

Mr. H. O. Cresswell, in moving a vote of thanks to Mr. Champneys, said that it was a long time since they had had read before them a paper so full of straightforward and honest advice, some of which they could all of them take to heart with advantage. Mr. Champneys could hardly have tackled a more difficult subject, embracing as it did the whole art of design; and the subject could hardly have been treated in a more masterly though at the same time simple way than it had been. As to the question whether architecture was an art or a profession, he thought that Mr. Champneys's paper furnished an answer; he (the speaker) thought there could be no doubt that architecture should be an art, while at the same time it must be, to a certain extent, a profession. Mr. Champneys had shown them how to secure an artistic design,—considered as a whole; that is to say, in plan, section, and elevation,—but he had also shown what care he had taken in keeping cost within the prescribed limits,—a purely professional matter. No doubt many of them would wish that in their own practice they were able to make such charming little arrangements as those by which Mr. Champneys managed to get twelve months to finish his design, filling up the interval by two or three sub-contracts for foundations, &c. No doubt an arrangement of that kind gave the architect time to study his design carefully, but how did it affect the ultimate cost of the building? In one point Mr. Champneys's paper was entirely at variance with many others that had been read in that room. Mr. Champneys distinctly told them *not* to begin by considering the plan; on the other hand, if there was one point which had been more impressed upon them than another in that room for years past, it was that they must begin by considering, not the elevation, but the plan. He (the speaker) thought that there was not the slightest doubt that Mr. Champneys was perfectly right; for if an architect started with a plan and laid down hard and fast lines from which he could not depart, he was storing up for himself difficulties which it would be difficult, if not impossible, to overcome. It was, therefore, of the first importance that the architect should consider his plan, section, and elevation all together, and he thought that Mr. Champneys was entitled to their thanks for having put that so clearly before them.

Mr. F. T. Baggallay said it gave him very great pleasure to second the vote of thanks to Mr. Champneys for his exceedingly clever paper. As Mr. Cresswell had said, it was a most useful paper for them, as it contained, in a few simple maxims, a fund of knowledge, which otherwise it would have taken them a great many years to acquire. He was very much struck with Mr. Champneys's injunction against being too clever. Over-cleverness seemed to be a general tendency of architecture in these days.

Mr. E. W. Mountford, in supporting the motion, said he had listened to the paper with very much pleasure; but, at the same time, he could not help thinking that while Mr. Champneys's method of obtaining time for the perfection of his design was conducive to artistic effect, it would have a tendency to very considerably increase the cost of the building.

The Chairman, in putting the motion to the meeting, said that on the burning question whether architecture was an art or a profession, he had not yet quite made up his mind. Architecture ought to be an art, certainly; but, admitting that, he did not see how they were to get rid of the purely professional side of an architect's practice. Nothing would be more congenial to many of them than to confine their attention to the purely artistic side of their work; but the demands of clients with regard to practical matters would not allow them to do that. The average requirements of the ordinary client made it imperative that the architect should bring a certain amount of practical knowledge to bear in the conduct of his professional work. But Mr. Champneys seemed to admit that, for he had told them how he was in the habit of carefully cubing up his buildings; and that was hardly an artistic operation. Of course he understood Mr. Champneys's point to be that it was really an artistic problem to design a cheap and presentable building within the limits of cost. Where the amount available was small in comparison with the cubic contents of the building, then effect could be got by severity rather than richness of design, and the richness and elaboration of the design could be increased if more money were available. The paper was one of very great interest and value, and was well worth pondering over.

The vote of thanks having been carried with much heartiness,

Mr. Basil Champneys, in the course of his reply, said that it was not his experience that the method of carrying out a building in sections was necessarily the most costly one; in fact, he thought it would be found to be the cheapest method, for very often a builder, whose tender was lowest for one section, was higher for all the other sections than any of his competitors. By his method, it would be possible to take the lowest tender for each section, and he thought it would often be found that the aggregate contract amounts for all the sections would be less than any tender submitted for the whole of the work by any one firm.

The meeting then terminated.

Advanced Class of Construction and Practice.—At the meeting of this class, held on Wednesday evening last, in consequence of the inability of Mr. Collins to prepare his promised paper, Mr. Arthur T. Bolton read a paper on "Mosaics," chiefly dealing with his recent studies at Pompeii, &c.

STATUE OF AN M.P. AT DURHAM.—In a limited competition, Mr. Joseph Whitehead, of Westminster, has been selected to execute a statue to the late Mr. Crawford, M.P. for Durham. It is to be in Sicilian marble, with polished grey granite pedestal; and, when completed, will be erected in front of the Miners' Institute at Durham.

ARCHITECTURAL SOCIETIES.

SHEFFIELD SOCIETY OF ARCHITECTS AND SURVEYORS.—The monthly meeting of this society was held at the School of Art on Tuesday evening last, when Mr. F. Fowler presided, and there was a large attendance of members. Mr. J. M. Brydon, F.R.I.B.A., of London, read an interesting paper on "The English Renaissance of the Seventeenth and Eighteenth Centuries." The paper was well illustrated by photographs, books, and fine contemporary engravings, lent by Messrs. J. B. Mitchell Withers and C. Hadfield. On the motion of Mr. Innocent, seconded by Mr. Mitchell Withers, and supported by Messrs. C. Hadfield and E. M. Gibbs, a hearty vote of thanks was accorded to the lecturer.

EDINBURGH ARCHITECTURAL ASSOCIATION.—On the 7th inst. the members of the Edinburgh Architectural Association visited three old mansion houses situated between the West-end of Edinburgh and Corstorphine. The first was Roseburn House, which bears over the entrance the date 1582, and a shield with the Russell and Fisher or Foreman arms impaled, and the initials, "M. R. & K. F." Alongside of this there is a carved lintel with the date 1562, and containing the Royal arms of Scotland, with various inscriptions. The party next visited Stenhope Mill, an ancient and now somewhat desolate mansion. It bears over the entrance doorway the arms and initials of Patrick Eleis, a merchant and burgher of Edinburgh, with the date 1623. Inside, one of the plaster ceilings is decorated with various ornaments, amongst which are the insignia of royalty. The party next visited Saughton House, where they were received by Mr. W. Traquair Dickson, and shown over the mansion house, which, like the others visited, is strongly vaulted on the ground-floor, and contains on the upper floors some panelled walls, with fine fireplaces and plaster ceilings. On one of the ground-floor vaults there is a painted decoration containing the date 1694, with the initials "S. V." A vote of thanks to the leader of the party, Mr. Rose, brought the excursion to a close.

ARCHÆOLOGICAL SOCIETIES.

BRITISH ARCHÆOLOGICAL ASSOCIATION.—At the meeting of this Society on the 4th inst., Mr. J. W. Grover, F.S.A., in the chair, it was announced that the annual congress would be held at York in the autumn. The chairman exhibited a series of London antiquities found in Cannon-street, among which were manacles of iron of Roman date. Mr. Loftus Brock, F.S.A., described a large piece of Roman mosaic pavement, found in Gloucestershire, which showed the mode of construction from the rough bed of concrete to the completed mosaic. Mr. Prigg announced the discovery of a Roman pottery kiln at West Stow Heath, Suffolk, where four others have already been found by him. He exhibited portions of the pottery which had been baked in the kiln, which are of peculiar design and texture. Other antiquities of Anglo-Saxon date were also exhibited. M. Marius Lungano announced the discovery of some curious relics of the English occupation which have been brought to light at San Gilles, near Bordeaux. Mr. Davis reported the entire demolition of the old manor house, Wandsworth. Mr. Lambert, F.S.A., sent for exhibition a metal vase, which was found a few years ago in the roof of his house in Coventry-street. It is the trade sign (the Golden Cup) of Peter Archambo, goldsmith, the founder of the business now carried on by Mr. Lambert. Mr. Earle Way exhibited a syllabub vessel dated 1657, found at Southwark. Mr. Oliver described a fine series of Dutch tiles from an old house recently demolished in the Whitechapel-road. A paper was then read by the Rev. Henry Baber on the parish of Ramsbury, Wilts, the seat of an ancient Bishopric in Saxon times. The proceedings concluded by the third portion of Mr. Macmichael's paper on the signs of the old trades of the City of London, the eastern part of the city being dealt with. A series of drawings of the principal signs which still remain was exhibited by Mr. Barrett.

LANCASHIRE AND CHESHIRE ANTIQUARIAN SOCIETY.—A meeting of the Lancashire and Cheshire Antiquarian Society was held on the 6th inst., Mr. W. E. A. Axon presiding, when two communications were made dealing with the sculptured stones in Heysham churchyard, near Morecambe Bay. The papers were contributed by Mr. J. Holme Nicholson, and the Rev. Thomas Lees, Vicar of Wreay, Carlisle. Mr. Nicholson said the monumental stone in the churchyard was sculptured in the form known as Saxon hog-back or pre-Norman coped stone. In his paper the Rev. T. Lees gave it as his opinion that the carvings on the hog-backed stone represented the death of Adam. With regard to the carvings on the shafts of a cross near the churchyard gate, Mr. Lees gave an explanation of his belief that they had reference to the martyrdom of St. Philip.

SOCIETY OF ANTIQUARIES OF SCOTLAND.—The usual monthly meeting of this society was held on the 9th inst. in the Museum, Queen-street, Edinburgh, Mr. John R. Findlay, Vice-President, in the chair. Mr. Alexander J. S. Brook, F.S.A.Scot., gave a notice of four silver communion cups of the early part of the seventeenth-century, which belonged to the Scottish congregation of Campvere, in the Netherlands. In the next paper, which was entitled "The House in which John Knox Died," and which dealt with the house in the High-street, Edinburgh, called John Knox's house, Mr. Charles J. Guthrie gave reasons for accepting the substantial accuracy of the traditional statements regarding John Knox's house. Referring to the vicissitudes of the house in the High-street of Edinburgh in recent times, he noticed its condemnation by the Dean of Guild Court, and its rescue after a long controversy and public agitation, by the Society of Antiquaries' action in co-operation with the committee for its acquisition and preservation for the public. In the third paper Mr. Gilbert Goudie, the treasurer of the society, described a Norwegian deed of conveyance of land in Shetland, dated at Bergen, 1537. The last paper was a notice by Mr. H. F. Morlan Simpson, F.S.A.Scot., of a Swedish rune-staff or runic calendar of the eighteenth-century, the property of the Right Hon. the Earl of Southesk.

SURREY ARCHÆOLOGICAL SOCIETY.—The annual general meeting of this society will be held on Wednesday next.

ENGINEERING SOCIETIES.

INSTITUTION OF MECHANICAL ENGINEERS.—An ordinary general meeting of this Institution will be held on Thursday, the 19th inst., and Friday, the 20th inst., at 25, Great George-street, Westminster, by kind permission of the Council of the Institution of Civil Engineers. The chair will be taken by the President, Mr. Joseph Tomlinson. The following papers will be read and discussed, as far as time permits:—"Fourth Report of the Research Committee on Friction: Experiments on the Friction of a Pivot Bearing;" "On Recent Trials of Rock-drills," by Mr. Edward H. Carbutt, past-President, and Mr. Henry Davey, of London.

LIVERPOOL ENGINEERING SOCIETY.—The eighth ordinary meeting of the present session was held at the Royal Institution, Colquitt-street, on Wednesday evening, March 4, Mr. Ferdinand Hudleston, Assoc.M.Inst.C.E., President, in the chair. Prof. H. S. Hele-Shaw, M.Inst.C.E., read a paper entitled, "The Education of an Engineer." The paper commenced by explaining that apart from the general importance of such a subject as the education of an engineer, there was a special reason for its selection at the present time. Members of the Society were no doubt aware that a committee of the Council had been appointed for the purpose of taking any steps that might seem advisable to exert what influence they could as far as possible, so that such funds as might be devoted by the Liverpool City Council for Engineering education under the Technical Instruction Act might be applied in a way that would be satisfactory to the Engineering Society as a whole. It was pointed out that the scope of the profession of engineering was so wide as almost to defy definition, though the one given by Telford, and adopted by the great parent society, the Institution of Civil Engineers, had never been improved upon. A brief statement of the various branches was then given, and the various diverse modes in which a man might become an engineer illustrated by the early career of Whitworth, Brunel, Vignoles, Bidder, Rennie, Cubitt, Siemens, Bessemer, Fairbairn, Bramah, Maudslay, Ericsson, and others. These, though, of course, exceptional lives, served to show that it would be absurd to attempt to narrow down the channels by which those who had the natural ability should follow their bent and enter the profession. The question, however, arose whether there were not certain broad lines upon which engineering education might be best carried out.

Books.

Encyclopédie de l'Architecture et de la Construction. Directeur, P. PLANAT. Vol. IV. Deuxième Fascicule. Paris: Dujardin et Cie.

THIS is an important number of M. Planat's Encyclopedia, containing as it does such subjects as "États-Unis," "Ferme," "Fenêtre," "Flèche," "Fondations," "Fontaine," &c. The article on "Fondations" is by M. C. Bazin. He divides the subject into the study and preparation of foundations on a suitable soil, and the means of treating those which are naturally unsuitable. The first division is sub-divided into "general" and "special" methods, the former dealing however with the methods required in various cases, either as having reference to the contour of the ground or the manner of bearing of the building upon it. In the case of buildings resting on separate points, as when the building is carried only on piers at distant points (a method which the author remarks is becoming more frequent with the increased employment of iron structures), he takes the 25-mètre gallery of the Paris Exhibition buildings as an example, giving a description and small plan and section of the piers. These consist of masses of béton from 3·50 to 7 mètres high, according to the nature of the ground, and 2 mètres by 1 in area; this mass rests on the ancient and undisturbed soil of the Champ de Mars, which has naturally undergone much disturbance on its upper surface. On this is a mass of masonry, with a coping of cement on it for distributing the weight of the foot of the iron pier; on the cement is placed a thin sheet of lead "destinée à assurer complètement le contact entre le métal et la maçonnerie." In England this employment of lead has of late been demonstrated to be one of the worst methods that can be employed in regard to the bearing of weight on masonry. The greater tensile strength of cement (he does not say what kind of cement, but we presume it is Portland or its equivalent) does away no doubt with some of this objection, as rendering it much more difficult to tear the cement asunder by the friction and expansion of the lead, but if there is a weak point in the way of a crack or a want of cohesion anywhere in the cement tablet, the lead will be likely to find this out, and the advantages of it otherwise are somewhat doubtful. At the Crystal Palace a concrete pier alone was used, with the top finished smooth in cement, on which the iron base-plate was bedded, and in all probability this simple construction was more to the purpose than the more costly combination of concrete, masonry, cement and lead used for the French building.

The foundations of the church of the Sacré Cœur at Montmartre appear to have caused a great deal of trouble and expense, the soil being loose and friable to a great depth; beneath this loose stuff is a thick and substantial bed of gypsum; and a whole system of deep wells were sunk till the gypsum was reached, and then built up with pillars of masonry. These are connected by arches a short depth beneath the floor of the crypt, and it is considered that the gypsum bed beneath forms a connexion at their bases, and that in fact the weight of the structure is by this means practically distributed beyond the area of the piers. The section of the foundations shows what an unusual amount of subterranean work was deemed necessary before the actual building could be commenced; work which must have run away with a considerable amount of the building fund.

The small section of the foundations of the double-storied bridge called the Point-du-Jour Viaduct is of interest. The arches of the upper viaduct are double the number of those of the lower bridge, the intermediate upper piers being carried by a massive *pointed* arch of masonry in cement, filled up solid in the spandrels, and carrying down the thrust onto the real piers of the whole structure, masses of béton resting on a bed of flints.

The story of the foundations for the Paris Opera House is given at some length, and is an interesting account of a struggle with unusual difficulties of site. When the firm ground for a foundation had been apparently reached, a flood of water poured into the excavations, and for five months pumps were kept going extract-

ing a volume of water which it was estimated would have filled a cubic space of the extent of the Louvre site and twice the height of the Notre Dame towers. Eventually the water had to be accepted as an element of the situation, and the space was converted into an immense underground vaulted cistern, which is even now often filled with water, and is utilised as a storage against fire.

Among the "special methods" of course the employment of caissons comes in, and there is a description and illustration of the caisson foundations for the great Bon Marché establishment. The foundations of the Magasin du Printemps and of the Eiffel Tower are also illustrated. In the section on the treatment of foundations on naturally unfit and friable soil, where no other can be obtained, we have the illustration of the Austro-Hungarian Lloyd's house at Trieste, built on a sandy foundation. The bottom of the foundations was formed by a "grillage" of massive beams of larch-wood, covered with a layer of béton of one mètre in thickness, on which were built a series of massive footings of masonry in two courses, consisting of stones two mètres in length and about half a mètre in thickness; on these came the actual footings of the walls. The writer does not mention whether the timber received any special chemical treatment to ensure it against decay; an important point which seems to have been overlooked either in the work or in the description. This is the only instance in which the author goes off French soil; but as far as it goes the article is an interesting one and well illustrated.

The word flèche in French includes what we mean by "spire," at least it includes spire terminations to towers and lanterns, as well as the more restricted sense in which this borrowed word is generally used in England. The illustrations are little more catholic than usual, including several from Germany (it is to be hoped that in the present condition of French feeling this will not give offence to patriotism), and two from England, the steeples of Bow and St. Bride's. Is it possible that these are considered sufficient to represent English spires? Possibly a further treatment of the subject is intended under "Spirale," but as a rule French architectural students do not get further than London in the study of English architecture. The article "Fenêtre" takes us back to the æsthetics of architecture; the article is by M. Léon Benouville; it is largely illustrated, but with an immense preponderance given to classic types; Gothic ones are very sparingly and inadequately illustrated. Not a word as to the tracery of English Gothic.

Near to "Fenêtre" is the familiar name of "Fergusson," who is the subject of a short but sympathetic article by our good friend M. Chas. Lucas, who appears to have undertaken the notices of English architects (his name is appended also to an article on "Flitcroft"), and who knows more about English architects and architecture than the majority of his countrymen. Strictly speaking, however, it is a mistake to characterise Fergusson as "Architecte Anglais," inasmuch as he himself always said that he did not claim to be an architect, but only a student of architectural style and history. M. Lucas gives a full list of his works, and observes that in the multiplicity of subjects which he took up and illustrated he seemed to have wished to justify the idea of Vitruvius as to the cycle of knowledge necessary to the comprehension of architecture. But he rightly regards the History of Architecture as Fergusson's chief title to fame, and laments that no French translation has been made of so valuable a work. We hope that in the next volume justice will be done to Gwilt, who may be fairly termed the modern Vitruvius. The article on Flitcroft is a very good summary, and tells us more about this former London architect than, possibly, most London architects of the present day know of. "Française (architecture)" is the subject of a long un-illustrated article by the editor, which seems rather superfluous, as the subject had been treated at great length and with numerous illustrations under the much longer article "Architecture" in the first volume, in which architecture is practically treated as if it were a peculiarly French art. Under "Gare" there are plans, sections, and views of a good many railway-stations, including Charing Cross and Paddington; St. Pancras might surely have taken precedence of these; its Gothic style is somewhat *prononcé* and is out of date now, but it must still be recognised as architecturally the most remarkable railway-station in London.

The article on "États-Unis," by M. Brincourt, is long and fully illustrated, and the subject appears to have interested the author very much. He concludes with the remark that "The architecture of the United States, a combination of different styles and schools, appropriated to the peculiar and new requirements of a people essentially practical and industrial, is full of instruction."

We are glad to see M. Planat's work advancing as rapidly as can be expected in an Encyclopædia planned on so large a scale, and wish it a continuance of success to the close.

A Digest of the Law and Practice of Letters Patent for Inventions. Second edition. By CLEMENT HIGGINS, Q.C., and G. E. JONES, Barrister-at-Law. London: W. Clowes & Sons, Limited. 1890.

The Patentees' Guide. Information for all Sorts and Conditions of Inventors in all Parts of the World. By H. F. BOUGHTON, Patent Agent. London: Simpkin & Co., Limited. 1890.

MR. HIGGINS' "Digest" is already well known, It is a useful companion to treatises on patent law. We may remind our readers of its form. The cases are collected under various heads, such as "Novelty," "Patentee." The name of the case and the year in which it was decided are given in large letters, and then follows a précis of the facts, and the legal result. For example, under the head of "Betts *v.* Weilson," we find the following:—"In order to establish the prior public use of a patented article, so as to invalidate the patent, it is not necessary to show that the article has been manufactured for sale." There is no question that the work is useful; it would have been more so with an index.

The second work at the head of this notice is quite of a different character: it is essentially popular; perhaps too much so. Thus, under the heading of "Buyers of Patents," we are told that "there are capitalists who make a regular business of speculating in the purchase of patents," and similar information of an unprecise and not very useful character is given. But a reader will obtain from the book a fair general idea of the law and practice in regard to patents, and the colloquial and general character of the book renders it easy reading. But, except for those who desire to obtain a sort of general knowledge of the subject, it will not be of much service.

The Planning of Ornament. By LEWIS F DAY. Second Edition revised, with additional illustrations. London: B. T. Batsford. 1890.

WE noticed at some length the first edition of this excellent little book, and have here only to record the appearance of the second edition, with some improvements, and to recommend it anew to the attention of students of ornament.

The Year's Art. By MARCUS B. HUISH. London: Virtue & Co. 1891.

THIS is the volume for 1891 of this useful compilation, which records the principal artistic events of the year, and gives small pictorial reminiscences of the principal pictures, &c. The number for 1891 also contains a number of well-executed portraits of leading artists. In other respects the volume quite keeps up to the standard of its predecessors.

SOME TRADE CATALOGUES.

MESSRS. O'BRIEN, THOMAS, & Co., of Upper Thames-street, send us their new illustrated catalogue of goods manufactured and sold by them. These include builders' hardware of all kinds, including stoves, ranges, grates, rain-water heads and pipes, gates, and railings; overmantels and chimney-pieces; stable fittings; baths, water-closets, and sanitary appliances of all kinds; door, window, and blind furniture; mouldings, doors, sash-bars, and balusters; and a thousand-and-one other items needed by the builder. The catalogue is a very well got up and comprehensive production, and, as all articles are priced, it will serve as a valuable guide to architects and builders.

Messrs. F. W. Reynolds & Co., of Southwark-street, send us their new "Architects' Illustrated Catalogue of Builders' and Contractors' Hardware." This also is an exceedingly comprehensive and well got up production, and cannot fail to be exceedingly useful to architects and builders. It deals with a wide variety of goods, stoves, grates, ranges, bakers' ovens, chimney-pieces, and overmantels; locks, bolts, bars, and hinges; fire-irons, fire-dogs, hearth and jamb tiles, &c., &c. A good idea seems to be that embodied in what is described as a "patent" speaking-tube, figured on page 207 of the catalogue. The patent consists in having two openings at each end of the ordinary tube,—one for speaking through, the other for listening,—so that a conversation can be carried on through this tube as rapidly and as easily as with a telephone, if not more so.

Mr. Samuel Elliott, of Banbury, whose joinery and mouldings are so favourably known to many of our readers, has sent us his "Moulding Catalogue, No. 7," which is well worth attention. The sections are all given full size, and the sections are so drawn and shaded as to show the exact appearance of the mouldings, *minus* the colour of the wood. The mouldings turned out by Mr. Elliott are, as we have had occasion to say when they have been exhibited at Islington, exceedingly sharp and well-finished. The catalogue will be found to contain an immense variety of sections, and will be found very useful. Architects who do not find in it exactly what they want can readily get made at Mr. Elliott's mills mouldings of any desired section.

Mr. Archibald D. Dawnay, of London Bridge House, sends us what is something in the nature of a trade catalogue, and something of an engineer's pocket-book. It is a booklet containing various sections of steel and iron joists and girders, with tables of strengths and safe distributed loads. It is likely to prove very useful.

Messrs. Baird, Thompson, & Co., of Queen Victoria-street and Glasgow, send us their "Revised Catalogue" of ventilating and heating appliances, of which there is a great variety illustrated, described, and priced in the catalogue. We understand that this firm have lately appointed Mr. James Cousland (formerly with Messrs. Robert Boyle & Co.) to be their London manager.

ASSOCIATION OF PUBLIC SANITARY INSPECTORS OF GREAT BRITAIN.

AT the March meeting of this Association, held on Saturday last, with Mr. Hugh Alexander in the chair, a paper on "Public Baths and Washhouses in the Metropolis" was read by Mr. W. Middleweek, Superintendent of the Kensington Baths and Washhouses, who was formerly Sanitary Inspector of Kensington. After declaring his complete acceptance of the doctrine held by the first President of the Association (the late Sir Edwin Chadwick) that sanitation, in the widest sense of the term, was included in the one word cleanliness, the lecturer bewailed the ignorance and apathy that existed among the public with regard to his subject. Through this apathy the Public Baths and Washhouses Act had so far been to a great extent a failure, the Act remaining almost a dead letter. The development of the movement, from 1854, when Shoreditch adopted the Act, down to a much more recent period, when after an eight years' struggle Kensington was able to get a suitable freehold site, at a cost not absolutely prohibitive, was traced by the author. The site difficulty had been the obstacle everywhere, fabulous prices being asked whenever a public body required to purchase freehold land. The offer of a premium of 100*l.* had failed to disclose a suitable site in Kensington, and in the end the Commissioners were compelled to go to Parliament for a compelling Act before they were able to obtain the land on which the present baths were built. The extension of the benefits of the Act in a population of 5,000,000 was an imperative necessity; but, unless the London County Council and similar bodies elsewhere were granted powers to compulsorily acquire sites for the purpose, that extension must necessarily be slow. Another difficulty was the inequality with which the imperial and municipal imposts were levied in different parishes. In Kensington, during the past year, the large sum of 319*l.* had to be paid upon the establishment for local rates, busides nearly 40*l.* in Queen's taxes. In St. Pancras, on the contrary, which had two establishments, no parochial rates were paid, and only a little over 30*l.* in Queen's taxes for the two institutions. Another difficulty was how to prevent the unfair use of the washhouses by laundresses who, in using them without charge, as in some parishes, gained an unfair advantage over other tradespeople at the expense of the ratepayers.

There was a good attendance, and the Chairman and several of the members took part in the discussion of the paper on the motion of a vote of thanks, which was subsequently cordially given.

Correspondence.

To the Editor of THE BUILDER.

THE SANITARY CONDITION OF SCHOOLS.

SIR,—As there is, perhaps, no subject at the present moment of greater importance than the proper and efficient ventilation of schools, I venture to suggest that Mr. W. P. Buchan might supplement the notice of his address at the Philosophical Society, Glasgow, which appeared in your columns of the 28th ult., by giving a short explanation of his objections to the arrangements at present adopted by the Glasgow School Board, together with his suggestions as to the alterations necessary to make these faulty arrangements more perfect.

The state of the atmosphere in the rooms may be taken as eloquent testimony to the *fact* that the systems in use are faulty. The important questions, however, are: What is practically wrong, and how can it be made right?

A few facts and figures would, I am sure, be of great value to architects, in all parts of the country,—unless, indeed, every School Board acts like the Glasgow Board, which has, according to Mr. Buchan, taken this work out of their architect's hands.—

"SANITAS."

The Student's Column.

VENTILATION AND WARMING.—X.

WÖLPERTS FORMULA AND ITS APPLICATION.

(*Continued.*)

A FEW other typical examples, in addition to those in our last chapter, we may also consider, so that we may be quite clear as to the method of applying our formulæ to particular cases.

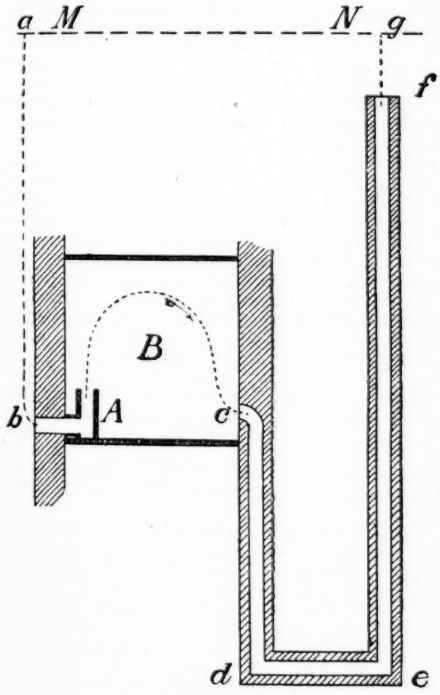

Fig. 7.

In fig. 7 we will suppose a room, B, heated by a stove or other apparatus, A, within it, instead of below it, as in our last example, and that the fresh air, entering from without, is warmed by the heating apparatus A, and, after passing through the room, is carried off by the flue *c d e f*, finally reaching M N, the limit of equal specific weight at *g*. We will suppose the flue to be carried downwards and horizontally, as shown, for some special reason in the planning of the building. This should, of course, not be done if it can possibly be avoided, for such an arrangement entails a considerable loss of efficiency. The motive column of cold air is of the height *a b*, while the warm air column that has to be moved by the greater weight of the cold air column is of the length *c d e f g*, so that in our general formula (20) we have a value for *h*, and a considerable value for Σ C by reason of the friction, and the angles at *d* and *e*, while for H we have *a b* less *f g*, as we have already explained in considering the problem illustrated in fig. 5.

Let us now suppose some still simpler examples. In fig. 8 we will assume that the air is entering by a Tobin's tube at *b c*, and an outlet is provided near the ceiling level into a flue *d e*. As long as the temperature of the room and of the air in the flue *d e* is higher than the external atmosphere, the column *a b* of cooler air will exert pressure and cause movement; *a b* will be the value of H in our formula, and the velocity of the flow can be calculated for any given difference of temperature. If, however, the external temperature is higher than that of the room and the flue, the column *a b* will be the lighter, and the direction of the current will be *e d c b*, the value of H in our formula being the vertical height of *e* above *b*.

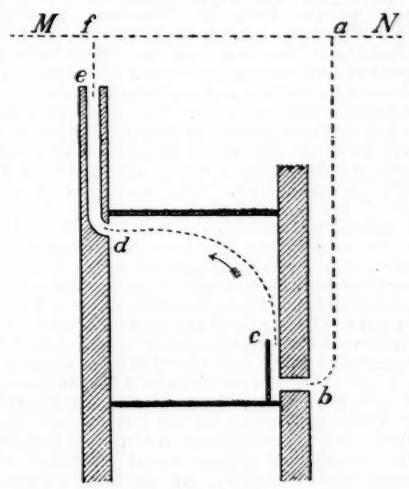

Fig. 8.

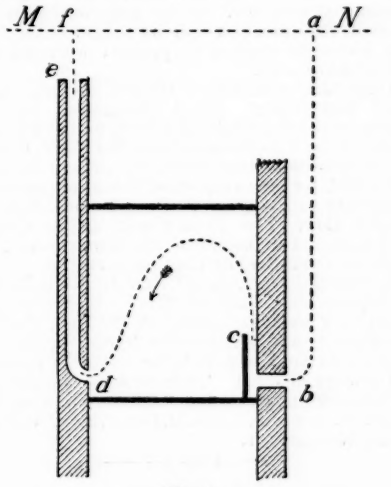

Fig. 9.

If we have in another case the Tobin tube as before, but the outlet near the floor level, as in fig. 9; *a b*, the height of our external column, will still be the value of H as long as the external atmosphere is colder than that of the room and the flue. The weight of the column of air in the Tobin tube will, however, give us in this case a value for *h*. As in the preceding case, when the external atmosphere is the warmer, the current is reversed.

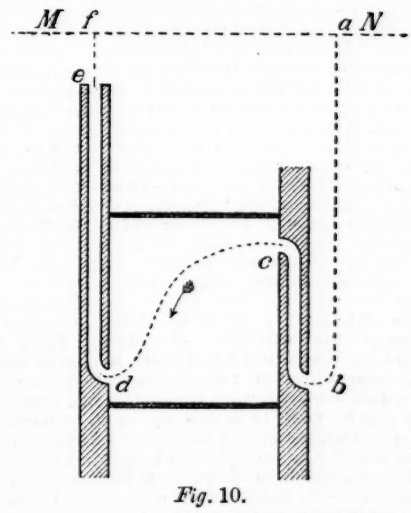

Fig. 10.

If, instead of a Tobin tube, the air is brought by a duct formed in the wall, as it might be occasionally for various reasons, the action is similar to that in the last two cases. In fig. 10, let us suppose the inlet to be near the ceiling level, at *c*, and the outlet near the floor level, at *d*. The value of H is still the height *a b*, but *h* has also a value for the resistance of the column *b c*. Such an arrangement as here shown accordingly results in a considerable loss of power, to avoid which, the duct *c b* should be above *c*, not below it.

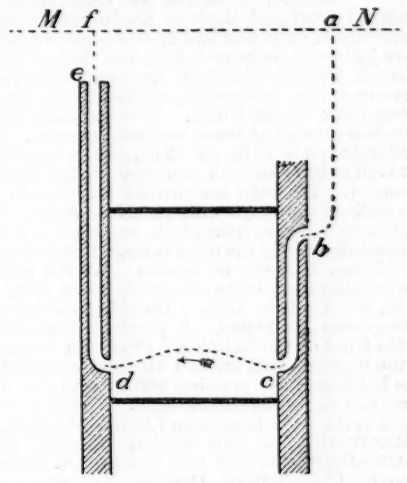

Fig. 11.

In fig. 11 we assume a similar case to the last, except that the inlet is near the floor at *c*, and on the same level as the outlet *d*. When the temperature of the column *a b c* is lower than that of *d e f*, there will be a movement of the air in the direction of the arrows, the motive power being the superior weight of the air column *a b c*. If the temperature of both the air columns is the same, their weight will also be the same. Again, if *d e f* be of the lower temperature, the movement will be in the opposite direction to that of the arrows, that is, in the direction *f e d c b a*. From this example we see that it is erroneous to talk of "siphon" action in ventilation. The longer *d e* and the the shorter *b c* correspond, it is true, with the longer and shorter legs of the siphon; but whereas the longer leg of the siphon is and must be the delivering one, we see that here, although the two flues or ducts are of different lengths, either or neither of them may be the outlet, and their action or inaction entirely depends upon their temperature, and is completely independent of any siphon principle. The term "siphon" ventilator, therefore, we must consider to be merely a pretty and fanciful name for quite a different action.

From our consideration of these various cases we gather that the height of the flue containing the column of warm air above the point of entry of the cold air is the most important point in any ventilation depending upon difference of temperature for its motive cause.

GENERAL BUILDING NEWS.

THE PROPOSED NEW RAILWAY STATION, EDINBURGH.—The elevations of the proposed new Caledonian railway-station at the west-end of Princes-street, Edinburgh, prepared by Messrs. Peddie & Kinnear, architects, have caused much disappointment, owing to their being undignified and inappropriate to so prominent a site. The architects explain that their instructions were to prepare a design for a building of a single story, and that they have endeavoured to give as dignified and architectural an effect to the building as was possible under the circumstances. Were the directors to sanction the addition of another story towards the Princes-street end of the station, it could be utilised as residences for some of the railway officials, and meet the views of the public. Some years ago Messrs. Peddie & Kinnear prepared plans showing a large hotel (such as that at Charing Cross) in connexion with the east end of the station, but that idea appears to have been abandoned.

NEW WELSH CHAPEL, SWANSEA.—A new chapel for the Welsh Baptists has just been opened at Swansea. The new chapel is built on Corporation land in Orchard-street. The contract was let to Messrs. Thomas, Watkins, & Jenkins at 2,500*l.*, and the total cost, including site, will be 3,530*l.* Seating accommodation is provided for 1,000 people.

NEW WESLEYAN CHAPEL, ATTERCLIFFE, SHEFFIELD.—The new Wesleyan Reform Chapel in Bodmin-street, Attercliffe, has just been completed. The chapel is 66 ft. long, 53 wide, and will accommodate 400 persons on the ground-floor, and 150 in the gallery, which runs across one end of the chapel. There are also two vestries and a kitchen on the ground-floor, above them being four class-rooms and under them a number of cellars. The internal fittings are of pitch pine, and the front of the building is faced with pressed brick and has Grenoside stone dressings. The building is warmed on the high-pressure hot-water system, and ventilation is obtained by means of patent extraction

ventilators. The cost of the building has been about 1,750*l*. Mr. E. Winder, jun., architect, Sheffield, prepared the plans and specifications, and Mr. J. Greenwood was the contractor.

NEW BANKING PREMISES AT CARDIFF. — The National Provincial Bank of England have taken possession of their new and altered premises, which have just been completed, from the design of Mr. Chas. R. Gribble, architect, London, by Messrs. S. Shepton & Son, contractors, of Cardiff, Mr. Grimes being clerk of the works. The basement of the premises consists of three new strong-rooms. The banking-room is 60 ft. by 32 ft., and is ventilated through to the roof with two steel shafts, 18 in. in diameter. The walls are divided into panels and the ceilings into bays with moulded panels. The customers' space in front of the counter is laid with a mosaic floor, and the room is heated by hot water by Messrs. Phipson, of London. At the rear of the banking-room is the manager's room, 18 ft. by 14 ft., fitted out in teak. On this floor another strong-room is situated. A porch has been added to the front of the building. From the basement to the banking-room is fitted with an hydraulic lift. The lighting of the premises will be with gas, with wires laid on for the electric light. The cost of the whole of the work is between 7,000*l*. and 8,000*l*.

RENOVATION OF THE SCOTCH CHURCH, CARLISLE.—During the past year the Scotch National Church, Chapel-street, Carlisle, has undergone various alterations, &c. These have been carried out by Mr. T. Taylor Scott, architect, Carlisle. The alterations consist of the removal of the roof and flat plastered ceiling, raising the gables at each end of the building, and the erection of a new roof. The old gallery has also been renovated, the greater portion of the floor being re-formed. The body of the church has been re-seated. The old stone floor of the church has been taken up and removed and a new boarded ventilated one constructed. A new pulpit of pitch pine has also been erected. The entrance to the church has been improved by the removal of the old vestibule, and the erection of a new one, and at the rear of the church a vestry has been erected. The two windows on each side of the pulpit have been filled in with stained glass. Mr. W. Pattinson was the builder, and the stained glass has been executed by Mr. Swaine Bourne, of Birmingham.

NEW MARKET FOR CADOXTON AND BARRY.—On the 7th inst. the new market buildings situate in Court-road and Barry-road, Cadoxton, erected by Councillor W. Symonds, of Cardiff, for the Barry Dock Town (Cadoxton) Market Company, at a cost of about 3,000*l*., from plans prepared by Messrs. Seward & Thomas, architects, Cardiff and Cadoxton, were opened for public purposes. The market is 120 ft. by 60 ft., with approaches from Court-road, Barry-road, and the new road to Holton. The roof trusses are of ironwork. Along the centre of the roof, and extending the whole length of the ridge, is a lantern light, glazed with Shelly's patent system of glazing, with louvres and shutters for ventilation. The floor will be paved with Staffordshire brick tiles. Lock-up shops, &c., will be arranged along the sides. At the end of the hall there are retiring-rooms, so that the hall (which will accommodate about 3,000 persons) can be used for the purposes of concerts, or public meetings. It is intended to further extend the market, and to erect shops, a small public-hall, and offices around it.

NEW CHURCH OF ST. DAVID'S, GLASGOW.—The ceremony of laying the foundation-stone of the new church for Free St. David's congregation, Glasgow, was performed on the 7th inst., by Lord Provost Muir. The site of the new building is in Cromwell-street. The church will be seated for 700 persons. Mr. Wm. Bennett is the architect, and Messrs. A. Muir & Son the builders.

NEW INSTITUTE, PRINCES RISBOROUGH, BUCKS.—The new Institute here was opened last week; it is presented to the town by the Right Hon. Lord Rothschild, who is a considerable landowner here. The building is of red brick, covered with Broseley tiles, and has a front to the High-street, with bay-windows extending up to a overhanging, half-timbered gable of the domestic style of the Elizabethan Period. On the ground-floor is a reading-room and committee-room, with lavatories in the rear. All the rooms on ground-floor are paved with wood blocks. The first-floor has a lecture-room, with an open ceiling, and cloak-room adjoining. The chimney pieces are of wainscot oak; other fittings in pitch pine. The architect is Mr. W. F. Taylor, of Aylesbury, and the work has been carried out by Mr. Geo. Green, of Aylesbury, at a cost of about 1,200*l*.

REOPENING OF SLAITHWAITE CHURCH.—On the 5th inst., Slaithwaite Church, Yorkshire, which is over a century old, was reopened, after having been closed for months for alterations. The estimated outlay for the restoration is about 4,000*l*. The work has been carried out from the designs and under the superintendence of Messrs. John Kirk & Sons, architects, Huddersfield.

NEW MARKETS, CARDIFF. — New markets are being erected at Cardiff from plans by Mr. W. Harpur, M. Inst. C.E., County-Borough Engineer. Mr. W. Allen is the general contractor. We understand that the shops and stalls (144) are being fitted up with improved revolving shutters, manufactured by A. Attwood & Co. (formerly Salmon, Barnes, & Co.), Ulverston.

SANITARY AND ENGINEERING NEWS.

UTTOXETER WATER SUPPLY. — Mr. W. H. Radford, C.E., was lately instructed by the Uttoxeter Rural Sanitary Authority to prepare a scheme for the improvement of the water-supply to the town of Uttoxeter. The present waterworks belong to a charity, and are inadequate. The reservoir and filter-beds are too low in level to supply the town efficiently. The mains are too shallow and partially stopped up, and otherwise in bad condition. The authorities have not had sufficient powers to exercise proper supervision over the consumers' fittings. The present supply is taken from a spring about a mile and a-half from the town. The spring is of good quality, but insufficient in quantity. Between the spring and the reservoir the water flows down an open brook, where it is liable to contamination. There are a number of private rights of supply along the course of the brook.—Mr. Radford advises the abandonment of the present reservoir and filter-beds and the taking up of the present water-mains. A portion of the present spring would be used for compensation water, and the remainder conducted into a new covered reservoir to hold 150,000 gallons, and to be placed at a higher level near the spring. New water-mains would be laid through the town, such of the present pipes as are suitable being re-used. Consumers' fittings would be tested and replaced where defective. An additional supply of about 32,000 gallons a day is likely to be required, and Mr. Radford advises the Authority to acquire certain springs at Somershall Herbert, about 3½ miles from the town. These can be brought to the town by gravitation. This part of the scheme can be left until the necessity for the additional supply is actually proved. The population of Uttoxeter is 5,000. The cost of the new scheme for works only is estimated at 3,800*l*. If the additional supply is required, the extra cost will be 1,650*l*. The Sanitary Authority propose to proceed with the first part of the scheme.

HEREFORD SEWAGE. — Colonel Ducat, R.E., Local Government Board Inspector, held an inquiry at the Guildhall, Hereford, on the 3rd inst., in regard to an application from the Town Council for sanction to borrow 4,500*l*. for sewage disposal, and 4,000*l*. for the extension of the sewerage system of the city to Hampton Park, Aylestone Hill, and Burcott Row. The Town Clerk (Mr. J. Carless, jun.) appeared on behalf of the Town Council, and plans were produced by the City Surveyor.

HATFIELD SEWERAGE.—Colonel Luard, R.E., held an inquiry on behalf of the Local Government Board on Tuesday last at the Public Hall, Hatfield, the Rural Sanitary Authority having applied for sanction to borrow 2,000*l*., for works of sewerage and sewage disposal. There was no opposition to the scheme, the plans for which were prepared by Mr. G. M. Lawford, Assoc. M. Inst. C.E., of Victoria-street, Westminster.

FOREIGN AND COLONIAL.

FRANCE.—The Louvre has just received the last completed work of the sculptor Giraud, who died in the last years of the reign of Louis Philippe. This work, left by the late M. Montenard, represents a woman draped in antique fashion, holding a sleeping infant, and with another child sleeping at her side. The group was designed as a funeral monument.——The "Union Centrale des Arts Décoratifs" is intending to hold in the spring of next year an exhibition of a combined artistic and horticultural character, with the object of illustrating the part which plants have played in the history of ornamental art in all ages and among all peoples.——M. Georges Berger, the new President of the "Union Centrale," is understood to have the intention of pushing strongly with the Government the scheme for the construction of a museum of decorative art on the site of the Cour des Comptes. ——M. Allar, sculptor and former holder of the Prix de Rome, has been appointed to succeed the late M. Delaplanche as professor of modelling in the École National des Beaux-Arts.——M. Siméon Luce, member of the "Académie des Inscriptions et Belles Lettres," has discovered in the National Archives documents which fix the locality of the house of Duguesclin between 1372 and 1380. A commemorative tablet will be fixed on the site in the Rue Vieille du Temple.—— The Municipality of Saint Ouen is going to avenge the expulsion of Marat from the Parc de Montsouris by erecting a bust of him in the council-room of the Mairie of that town.—— Another fierce figure of the Revolution, Danton, is to give his name to a new square to be formed at Paris abutting on the Boulevard St. Germain, on the site of a group of houses bounded by the Rues Eperon, Danton, and Serpente, which has been demolished.——M. Falguière has just gone to Chambéry to study the most favourable site for the monument to be erected to commemorate the hundredth anniversary of the union of Savoy with France. He has selected the Place on the axis of the Pont Reclus. The monument is to be erected by public subscription in the department of Savoy alone. Fifty thousand francs have been already collected.——A competition has been opened at Rambouillet for the establishment of a new water-supply for domestic purposes.——M. Roger Ballu, Inspecteur des Beaux-Arts, has been invited by various literary and artistic clubs of Belgium to give some lectures on Meissonier at Ghent, Brussels, and elsewhere.——M. Marchandier, architect, of Neuilly-sur-Seine, has just died at the age of 46. He was a pupil of the Ecole des Beaux-Arts and of Constant Dufeux, and had been successful in various competitions, of which one of the most important was that for the Prefecture building at Tulle. He was a member of the Société Centrale. ——The death is also announced of M. Vésignié, a former naval engineer. He was a distinguished man in his profession, and designed most of the steamers for the Messageries Maritimes.——The Municipality of Paris is about to open shortly a competition for the erection of a statue of Beaumarchais on the boulevard of that name, near the site where the poet formerly lived.—— At the Institut, the Committee concerned with the candidature for the position filled by the late Baron Haussmann has recommended the names of M. Alphand and M. Duplessis, the former by preference.——At the École de Beaux-Arts the competition for the Achille Leclère prize has been decided, and the prize awarded to M. G. Beleston, pupil of MM. André and Lalouze.

BERLIN.—Miss Schinkel, daughter of the renowned German architect Schinkel, died last week, and has left a valuable collection of architectural drawings, works of art, &c., the former property of her father, to the Royal Technical College of Berlin.——The great annual Schinkel competition for the medal and travelling studentship has again been a failure, only three candidates having sent in designs for the subject set, and none of these designs being found deserving of medal or prize. The late continual failure of this formerly important competition has been the subject of strong comment at the "Architekten-Verein," where several members consider that the present system of the education of architects is by no means satisfactory. At the "Architekten Verein," the proposed division into two distinct groups (1) for architectural art and archæology, and (2) for construction and civil engineering, has now taken place. Division No. 1 will work under the presidency of "Baurath" Wellot, architect of the new Houses of Parliament in course of erection, "Baurath" Hossfeld, of the Ministry of Public Works, acting as vice-president.——An address, bearing over 3,500 signatures of architects and civil engineers, has been presented to Geheim. Ober Baurath Schwedler, of the Prussian Ministry of Public Works, who resigned his post on March 1. Among the 3,500 who wished to do honour to Brth. Schwedler, some 500 are non Germans, and of these a large contingent are English and Americans.——An extensive scheme for opening up the centre of the city, by cutting through some new thoroughfares, is to be taken in hand this year, the Municipality having sanctioned the idea, and the financial part having been arranged by some large banking firms. Among some of the larger buildings which will have to be demolished in connexion with this scheme, we may mention the "Victoria Theatre," remarkable for its having two auditoria to a mutual stage, measuring some 35 m. in length, 25 m. in width, erected some thirty years ago by Langhaus, architect of the Berlin Opera House.

STUTTGART.—A small so-called "International" Art Exhibition was opened here on March 1. Prince William, President of the Committee of Management, in opening the Exhibition, gave an address on Art. Austria, Italy, France, Spain, the Netherlands, and England are represented. A competition for designs for the laying-out and planning of an extensive colony of workmen's dwellings has been opened. According to the "programme," the dwelling-houses are to be built either detached or semi-detached, each building being planned for at least two and not more than six families, each of which are to have their own piece of land for gardening purposes adjoining to the house. A terrace of shops, a co-operative store of large dimensions, an eating-house and large assembly rooms will have to be found room for in separate buildings. Special stress is laid on having the façades of the dwelling-houses picturesque and varied.

SCHWERIN.—A monument in the form of a statue is to be erected to the memory of Schliemann, at Schwerin. The Grand Duke of Mecklenburg, under whose presidency a committee has been formed, has headed the list of subscribers with 50*l*.

FIRST USE OF THE WORD "HYGIENE" IN ENGLISH.—Mr. Edward Peacock, writing to *Notes and Queries*, says:—"It is useful to have a note of the first appearance of a word in our language. At the end of the first volume of the third edition of Southey's 'Letters Written during a Journey in Spain' occurs a translation of the 'Rules of the Royal College of Surgery at Madrid, founded by Carlos III. 1787.' Here we find that the second professorship 'shall be of Physiology and *Higiene*' (p. 303). To this word the following note is attached: — 'I do not understand this word; perhaps it means the doctrine of health.' Southey was a great reader, and had a verbal memory such as the votaries of *Notes and Queries* might envy. It is obvious that he had never met with *hygiene* before."

MISCELLANEOUS.

THE CENTRAL LONDON RAILWAY SCHEME.—After a moderately stout contest, the Bill for constructing an underground electric railway from the City to the West-end has again been approved by a Select Committee of the House of Commons, as it was last year, when it was rejected by the Upper House. During the interval the scheme has been materially enlarged, the City terminus as now proposed being in Cornhill, and the western terminus at Shepherd's Bush, instead of at Queen's-road, Bayswater. The effect of this change has been to increase the length of line from four and a-half miles to six miles, and at the same time to remove the station for generating the electricity from the crowded neighbourhood of Bayswater to a point further out in the suburbs. In other main features the proposal is the same as last year, but it is worth noting that in deference to the Dean and Chapter of St. Paul's, the station which previously was to have been placed nearly opposite, and very near to the Cathedral, has been removed in the plans, and thus the opposition from that quarter has been met and disposed of. Last year thirty-seven petitions were presented against the Bill; on this occasion that number was reduced to twenty-seven, and the bulk of these were based either upon a claim to payment to owners for the use of the subsoil or upon alleged fears of damage and disturbance to property along the route. The evidence taken was almost confined to the engineering and electrical aspects of the case, the other issues being dealt with in the main only in the speeches of counsel; but Mr. Walmisley, C.E., maintained that the project would not do any injury to adjacent property, while Mr. Vigers, land surveyor and agent in the City of London, declared that during forty years' experience he had never known a case in which a railway company or any other company had paid compensation for the sub-soil of the street. Other eminent witnesses, such as Sir Benjamin Baker, C.E., Sir John Fowler, C.E., and Mr. Greathead, C.E., likewise contended that no damage would accrue to buildings through construction or working; and on the point whether or not pumping would cause subsidence, they explained that by an express clause in the Bill the promoters were forbidden to resort to pumping.

LIQUID FUEL FOR LOCOMOTIVES.—The *Daily Graphic* of the 7th inst. gives an interesting account of a run from Ipswich to London on express locomotive No. 759, belonging to the Great Eastern Railway Company. This locomotive is fed with liquid fuel, consisting of a thin tarry refuse which remains from the manufacture (from shale-oil) of the gas for lighting the railway carriages. The locomotive appears to be entirely successful, the run from Ipswich to Liverpool-street (nearly 70 miles), being accomplished in 88 minutes. It appears from the details given that the liquid fuel is much more economical in its results than coal. To Mr. James Holden, the Locomotive Superintendent, is due this important departure in locomotive engineering.

ACQUISITIONS BY THE SOUTH KENSINGTON MUSEUM.—The *Athenæum* states that the South Kensington Museum has obtained the entire lining of a room, *temp.* Elizabeth, from Sizergh Castle, Westmoreland, about 120 ft. run in all, and nearly 12 ft. high. It consists of panels of dark oak inlaid with holly and ebony, and divided by quasi-Corinthian pilasters supporting a cornice and entablature. The same journal states that the oaken and well-carved front of the old house of Sir Paul Pindar, recently removed from Bishopsgate-street Without, has been carefully and suitably repaired and cleaned, and will in a few days be erected in one of the courts of the Museum.

MARBLE WORK.—We have received from Messrs. J. & H. Patteson, of Manchester, a pamphlet giving photographic illustrations of various works in marble carried out by them under different architects, including the main entrance to the Lancashire and Yorkshire Bank (Messrs. Heathcote & Rawle, architects), and the banking chamber in the same building. The latter is a very elaborate piece of work, the walls being entirely faced with marble above the dado; Rouge Jaspé marble is employed for the wall surfaces with narrow bands of Pavonazzo; door-frames, door-pediments and pilasters of Pavonazzo. The effect, judging from the photograph, is very rich and sumptuous.

A PROPOSED NEW SOCIETY OF ARTISTS.—We hear it is extremely likely that an attempt will be made to translate the Société des Vingt de Bruxelles into English, and form a London Twenty Club. The idea is to get the twenty artists together who consider themselves the best outsiders,—that is to say, neither Academicians nor Associates,—and then let them jointly acquire or hire some picture-gallery for the purpose of exhibiting their works. The wall-space available would be divided into twenty different sections of equal size, their allotment to be determined by ballot. Each member would then have his own space, which he might decorate and arrange as he pleased, and whereon he might display as many of his works as its limits allowed, or as few as his judgment advised. Over each section would be boldly blazoned the name of the artist. Such a society, in the face of the facts that the Grosvenor has disappeared, and that the New is somewhat too partial to particular schools, would undoubtedly cause justice to be done to certain men who, under existing circumstances, are likely to have their claims somewhat slighted. The difficulties in the way of its realisation are the scarcity of suitable galleries, and the fear those men who press closest against the gates of Burlington House might feel that their support of such a scheme would prejudice their chances for admission to the Academy.—*The Speaker*.

CHICAGO CARPENTERS.—A strike is threatened by the carpenters of Chicago, who will come out on April 1 unless the differences between them and their "bosses" as to wages are adjusted before that date. Last season 3,000 carpenters struck. Their union has increased since then to 6,000 members, and they will have this year also the support of the new Building Trades Council. With the exhibition buildings in progress, a strike would be a serious matter.

REGISTRATION OF PLUMBERS.—An adjourned meeting of the Liverpool registration committee of the National Registration of Plumbers was held in the Free Library, William Brown-street, on the 5th inst. Dr. J. Stopford Taylor (Medical Officer of Health for Liverpool) occupied the chair, and was supported by Dr. Vacher (Medical Officer of Birkenhead), and by the trade representatives. Mr. Coard S. Pain, engineer to the Northern Sanitary Association, and a member of the Committee of the School of Science, was elected a member of the Registration Committee.—Mr. Pain thanked the Committee, and stated, on behalf of the School of Science, that they were anxious to assist in every way the scheme of registration of qualified plumbers, technically instructed and examined.—The hon. secretary (Mr. Watkin Hall, C.E.) submitted a number of applications for admission to the register. After dealing with these, the Committee directed the secretary to report to the board of examiners that some twenty-six applicants were now awaiting examination. During the evening sixteen certificates were issued to successful candidates.

SCHOLARSHIPS FOR BUILDING ARTISANS.—The Bristol Builders' Association have lodged with the Town Clerk, a memorial for presentation to the Town Council, asking the Corporation to establish 200 scholarships of 2*l.* apiece, to be awarded annually, under such conditions as may be thought desirable, to *bonâ fide* masons, bricklayers, plasterers, carpenters, joiners, decorators, smiths, and plumbers, and to be held at the Merchant Venturers' or other schools, entitling the holders to instruction in classes for the study of such subjects of science or art as are concerned with the principles of their respective industries.—*Bristol Times and Mirror*.

THE ENGLISH IRON TRADE.—The English iron market keeps very quiet, and its tone is the reverse of strong. The demand for pig-iron is comparatively slight, and as the re-lighting of Scotch furnaces has imparted a weakening tendency to the market, both buyers and sellers are undecided, and little business is being done. Cleveland pig-iron has dropped 1s. 6d. a ton, and in Lancashire depression in prices prevails. Bessemer iron has not lost in value, but warrants are cheaper. The fall in pig-iron has, so far, not affected finished iron; in fact, it may be said that it is rather stiffer; but unless trade revives soon, a reaction is inevitable, notwithstanding that manufacturers are handicapped by dear fuel and high wages. The steel market is depressed, and prices, especially in the north-west, are irregular, great competition prevailing for orders. Ship-builders and engineers are slacker.—*Iron*.

LECTURES AT CARPENTERS' HALL.—Reports of the third and fourth of this series of lectures are in type, but are held over until next week for want of space.

STATUE OF DR. WILLIAM CHAMBERS, EDINBURGH.—The bronze statue of William Chambers, LL.D., by Mr. John Rhind, sculptor, erected in front of the Museum of Science and Art, Edinburgh, was unveiled by the Lord Provost on Thursday of last week, in presence of a gathering of city notabilities. It stands upon an ornate pedestal of red Correme stone, which is decorated with reliefs and bronze. The figure is 10 ft. 6 in. in height, and represents Dr. Chambers attired in court costume, over which is thrown his civic robe. The figure is life-like and picturesque in pose, and looks well in the position which it occupies. The inscription on a bronze panel let into the front of the pedestal reads:—

WILLIAM CHAMBERS,
of Glenormiston, LL.D.,
LORD PROVOST
of Edinburgh,
1865–1869.
Born 16th April, 1800.
Died 21st May, 1883.

THE BUILDINGS OF PEKIN.—A paper on this subject was read before the Cologne Geographical Society at its last meeting by Dr. Emans. The author said that the buildings of Pekin are all of one style of architecture, the only existing Chinese style, known by its steep, concave roof. In many buildings several roofs are superimposed one upon the other, which feature has a striking effect, especially in the towers which rise upon the city walls. The material of all private and most public buildings is a brick of slate colour, the roofs being covered with pantiles of the same tinge. Only Imperial buildings have roofs of yellow, the palaces of Princes and the gate towers of green tiles. Wood is but sparingly used in private houses, being too dear in a country devoid of forests; but it is often lavishly employed in temples and palaces. The private houses have but one story, the only opening towards the street being the door, which imparts a desolate and even sinister look to the labyrinth of irregular lanes packed in between the main thoroughfares. Passing through the door, a courtyard is reached, on one side of which, or round which, the rooms are ranged. The latter have only one door, which also admits the light. Every larger courtyard is planted with trees, which gives to Pekin, looked at from the walls, the appearance of a park enlivened by many coloured roofs. There are no provisions for heating the rooms except the "Kang," an elevation, provided on the inside with a stove, running along one side of the room, which serves the Chinese as bed, and frequently also as table and chairs. The doors are often pasted over with the coloured representations of two tutelar genii, and not seldom one reads above them the pious inscription "Ping An," which means "peace and quietness." The public buildings are very unevenly distributed over the city. Amongst them may be mentioned as worthy of note the imperial palace, consisting of a long series of gates, reception halls, separate palaces, and gardens, the Hill of Prospect, the marble bridge, the Examination Hall, the observatory with its valuable instruments, mostly left behind by the missionaries of the seventeenth century, the Temple of Confucius, the Hall of the Classics, the Drum Tower, and the Bell Tower. To Europeans, the buildings of greatest interest are the embassies and the three Catholic cathedrals, "Nan Tang," "Bé Tang," and "Dung Tang." Round the city are situate temples and Buddhist monasteries.

MEETINGS.

SATURDAY, MARCH 14.

Architectural Association.—Visit to the Tower Bridge Works. Meet at 3 o'clock at the entrance adjacent to the Tower.

Royal Institution.—The Right Hon. Lord Rayleigh, M.A., F.R.S., on "The Forces of Cohesion." V. 3 p.m.

MONDAY, MARCH 16.

Surveyors' Institution.—Mr. Walter Clode on "Some Questions of Law arising out of the Occupation of Houses in Flats." 8 p.m.

Society of Arts (Cantor Lectures).—Professor R. Meldola, F.R.S., on "Photographic Chemistry." II. 8 p.m.

Liverpool Architectural Society.—Special meeting at the Library. 7.30 p.m.

TUESDAY, MARCH 17.

Institution of Civil Engineers.—Further discussion on Mr. J. Thornhill Harrison's paper on "The Subterranean Water in the Chalk Formation of the Upper Thames, and its Relation to the Supply of London." 8 p.m.

Sanitary Institute (Lectures for Sanitary Officers).—Professor A. Bostock Hill on "Trade Nuisances." 8 p.m.

Society of Arts (Foreign and Colonial Section).—Sir Edward N. C. Braddon on "Recent Development of Tasmanian Industries.' 8 p.m.

Leeds and Yorkshire Architectural Society.—Mr. G. F. Charnock on "Recent Practice in the Design of Ironwork for Buildings." 7.30 p.m.

WEDNESDAY, MARCH 18.

Carpenters' Hall (Free Lectures to Artisans).—Professor Banister Fletcher on "Architecture, and its Civil and Commercial Value. 8 p.m.

Society of Arts.—Mr. F. H. Cheesewright on "Harbours, Natural and Artificial.' 8 p.m.

Civil and Mechanical Engineers' Society.—Mr. Otto Friederici on "Electrical Appliances." 7 p.m.

British Archæological Association.—(1) Miss Russell on "The Acquisition of Lothian by Northumbria." (2) Dr. Fryer on "The Composition of Roman Mortar.' 8 p.m.

Surrey Archæological Society.—Annual General Meeting. 4 p.m.

Institution of Civil Engineers.—Students' Visit to the Goods Depôt of the London, Tilbury, and Southend Railway at Whitechapel.

Royal Meteorological Society.—Paper by Mr. G. J. Symons, F.R.S., entitled "A Contribution to the History of Rain Gauges." 7 p.m.

St. Paul's Ecclesiological Society.—7.30 p.m.

Manchester Architectural Association.—Paper by Mr. Edgar Wood. 7.30 p.m.

THURSDAY, MARCH 19.

Royal Institution.—Professor C. Meymott Tidy on "Modern Chemistry in Relation to Sanitation." III. 3 p.m.

Institution of Mechanical Engineers.—General Meeting, when two papers will be read. 7.30 p.m.

Society of Antiquaries.—8.30 p.m.

FRIDAY, MARCH 20.

Architectural Association.—Special General Meeting, when the new rules as amended by counsel will be submitted for confirmation. 7 p.m. To be followed by an Ordinary Meeting, when two papers will be read (1) Mr. H. V. Lanchester on "Spanish Architecture"; (2) Mr. Horace Townsend on "The House that Jonathan Builds." 7.30 p.m.

Institution of Mechanical Engineers.—General Meeting (continued). 7.30 p.m.

Sanitary Institute (Lectures for Sanitary Officers).—Mr. A. Wynter Blyth on "Sanitary Law: English, Scotch and Irish.." 8 p.m.

SATURDAY, MARCH 21.

Royal Institution.—The Right Hon. Lord Rayleigh, M.A., F.R.S., on "The Forces of Cohesion." VI.

Edinburgh Architectural Association.—Visit to Gosford House, and Red House.

Glasgow Architectural Association.—Visit to Paisley, Coats Church, &c.

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITIONS.

Nature of Work.	By whom Advertised	Premium.	Designs to be delivered.
School Buildings	Llanharran (Glam.) School Board	Not stated	Mar. 31
Bird and Reptile House	Bristol, &c. Zoological Society	do.	May 1
*Labourers' Dwellings	Manchester Corp.	do.	June 1
*Drainage and Sewerage Scheme	Easthampstead R.S.A.	50*l.*	June 24

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
*Purchase and Pulling-down Building Mat.	School Bd. for London	*Official*	Mar. 16
Cast-iron Pipes, Valves, &c.	Manchester Corp.	do.	Mar. 17
Hydrants, Castings, Brasswork, &c.	Liverpool Corp.	do.	do.
Sewerage Works	Altrincham R.S.A.	Mr. McKenzie	do.
Additions to Prestwich Asylum, Manchester	Committee	H. Littler & Son	do.
Sewering and Paving	Belfast Corporation	*Official*	do.
*Works and Materials	Tottenham Local Bd.	*Official*	do.
*New College	Norwich Training Coll.		do.
*Works and Materials (Eastern District)	War Department	*Official*	Mar. 18
*Works in connexion with Refuse Destructor	Bristol U.S.A.	F. Ashmead	do.
Shop and Offices, Corn Market, Halifax		W. H. D. Horsfall	do.
Seven Scullery Houses and House and Shop, Ovenden, Halifax	Proprietor		do.
Shop and Dwelling-house, Bovey, Tracey	Mr. Peters	S. Segar	do.
Re-building "Borough Arms" Inn, Cardiff	Jas. Howell	J. P. Jones	do.
Alterations and Additions to Schools	Rumney School Board	do.	do.
Cast-iron Water Pipes, Sluice Valves, Hydrants, &c.	Tynemouth R.S.A.	A. S. Dinning	do.
Sewerage Works, Dudley and Annitsford	do.	do.	do.
*Works and Materials	Kingston Highway Bd.	A. J. Henderson	do.
Sewerage &c. Shanklin	Isle of Wight R.S.A.	*Official*	do
Timber, Rails, Posts, &c.	N. E. Ry. Co.	do.	do.
Ten Workmen's Cottages, Old Radnor	Sir H. E. F. Lewis, Bt.		do.
Wesleyan Chapel, Schools, &c. Masham, Yorks	Rev. J. Tesseyman	Edwd. Taylor	do.
Bridge over Railway, Dowlais	G. W. & Rhymney Rail. Cos.	*Official*	Mar. 19
*Making-up Roads, &c.	Ealing Local Board	Chas. Jones	do.
New Church, Rossett Denbighshire		Douglas & Fordham	do.
Iron Castings, Gas Works	Halifax Corporation	T. Holgate	do.
Two Villas, Lampeter		D. Jenkins	do.
*Laying-out Cemetery	Sutton-in-Ashfield L.B.	Mr. Wm. Bishop	do.
Road to Argoed	Tredegar Local Board	G. A. Lundie	Mar. 20
Two Semi-detached Houses, Halifax		Utley & Gray	do.
New Free Church, Cromdale, N.B.		Geo. Sutherland	do.
Work at Cemetery	Hedworth, Monkton, & Jarrow Burial Bd.	*Official*	do.
*Sewerage and Road Works	Hornsey Local Board	T. de Courcy Meade	do.
*Building Works	do.	do.	do.
Church Home, Clyde-road, Dublin		Sir T. Deane & Son	do.
Parsonage, Dufftown, N.B.	Rev. Mr. Moggridge	Ross & Macbeth	do.
Dhu Stone	Leominster High. Bd.	W. J. Davis	Mar. 21
House and Stabling, Keith, N.B.		Matthews & Mackenzie	do
*Works and Materials	Reading Corporation	A. W. Parry	do.
Road Works	Hawarden and Hope Highway Board	W. Newton	do.
*Wood Paving	Wandsworth Bd. of Wks	J. C. Radford	Mar. 23
*Repairs of Private Roads	Croydon Council	*Official*	do.
Road Works	Methley Local Board	do.	do.
Road Works	Hillsborough Lnd Soc.	J. H. Robertson	Mar. 24
*Making-up Roads and Paving Footways	Willesden Local Bd.	O. Claude Robson	do.

CONTRACTS.—*Continued.*

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
*Wesleyan Chapel and Schools	Trustees of Garrison and Naval Port of Chatham	Ruck & Smith	Mar. 24
Iron, Fittings, Wire, &c.	Manchester, Sheffield, and Linc. Ry. Co.	*Official*	do.
Iron Pipes and Castings	Swansea Town Council	do.	do.
*Guernsey Granite	Gravesend U.S.A.	do.	do.
*York Paving and Granite Kerb Stone	St. Saviour's Bd. of Wks	do.	do.
*Works and Materials (Birmingham)	War Department	do.	Mar. 25
*Underground Convenience	St. Martins-in-the-Flds Vestry	C. Mason	do.
*Works and Materials (South Wales)	War Department	*Official*	do.
*Barge-away Dust, Ashes, Refuse, &c.	Hammersmith Vestry	H. Mair	do.
Forty Cottages, Tredegar	New Building Soc.		do.
Main Sewer, Doagh, Ireland	Antrim R.S.A.	*Official*	Mar. 26
Sewerage Works (15,396 yards)	Auckland U.R.S.A.	C. Johnston	do.
*Widening Road	Horbury Local Board	H. P. Dawson	do.
Granite and Whinstone Road Metal	Pontefract Corp.	J. Heseltine	Mar. 27
New Road, Penrhiwceiber	Mountain Ash Loc. Bd	*Official*	Mar. 31
*Works and Materials (York)	War Department	do.	April 1
Heating Chapels	Brightside Burial Bd.	do.	do.
*Sewerage Works	East Grinstead R.S.A.	Urban Smith	do.
*Works and Materials (Liverpool Sub-District)	War Department	*Official*	April 3
New Cemetery	Houghton-le-Spring Local Board	Thos. Foster	April 4
School and Offices, Heatherland	Kinson School Board	Lawson & Donkin	April 6
Raising Building and Constructing Concrete Floor and Roof	Sheffield United Gas Light Co.	F. W. Stevenson	do.
*Cemetery, Chapel, Lodge, &c. &c.	Melton Mowbray L. B.	*Official*	April 10
*Dock Gates, Tyne Dock	N. E. Ry. Co.	J. W. Barry	April 16
Increasing Height of Chimney, Canal Mills, Sowerby Bridge	Thos. Gaukroger		No date
Additions to School, Gilbert-street and Lord-street	Sheffield School Board	C. J. Innocent	do.
House, Business Premises, and Warehouse, Holbeach	Mrs. Harrison	J. Sawyer	do.
*Drain Pipes	Hertfordshire C. C.	Urban Smith	do.
*Works and Materials (Devon Sub-Dist.)	War Department	*Official*	do.
*Erection of Goods Office and Cottages	M. R. Co.	do.	do.
Home for Incurables	Newcastle-on-Tyne Crp	E. Shewbrooks	do.
Five Houses and Shops, Newton-grove, Leeds		A. Neill	do.
Re-building "Alexandra Inn," Newport, Mon.	Hancock & Co. Lim.	Habershon & Fawckner	do.
Re-building "Shakespeare Inn," Tyne Dock	Newcastle Breweries, Lim.	S. Oswald & Son	do.
Alterations to "Lord Nelson," &c. Jarrow	John Duncan	B. F. Simpson	do.
Two Houses, Towneley Building Estate, Stanley, Durham	Jas. Craine	T. C. Nicholson	do.
Workmen's Houses, Tarbrax, Cobbinshaw, N.B.	Caledonian Mineral Oil Co.		do.
Alterations to South Ridge House, Beeston Hill, Leeds		C. H. Thornton	do.
Church Work at Langton-on-the-Hill and Hemingby, near Horncastle		Wm. Scorer	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary	Applications to be in
*Surveyor's Assistant	West Bromwich Corp.	100*l.*	Mar. 17
*Road Foreman	Birmingham Corporth.	2*l.*	Mar. 25
*Inspectors (2) of Sanitary Works	Commissnrs. of Sewers	200*l.* &c. each	April 2

Those marked with an Asterisk (*) are advertised in this Number. *Competitions, p.* iv. *Contracts, pp.* iv., vi., *and* viii. *Public Appointments, p.* xx.

RECENT PATENTS:

ABSTRACTS OF SPECIFICATIONS.

1,176.—CEMENTING COMPOUND: *W. Sinclair and M Mackay.*—This invention relates to the combination of certain ingredients for the manufacture of cement specially adapted for cementing stone to stone, iron to stone, or for filling in the seams of iron ships, joints of drain pipes, &c. Resin, wax, plaster of Paris, iron filings, and graphite are used in certain variable proportions for the different purposes indicated.

2,789.—GRATES: *H. J. Wilson.*—According to this invention, a framework of bars is placed in the grate, hooking on to the back part. By such arrangement, air is admitted all round the burning fuel, and combustion facilitated.

3,343.—BRICK AND POTTERY KILNS: *T. Fletcher and others.*—The improvements which are the subject of this patent consist of arrangements whereby the products of combustion are led into a combustion chamber, thence, by means of a series of flues and dampers, into the chimney of the kiln, or, in alternative, into a flue, from which other kilns can be supplied, so as to make use of the gases for a second (or even a third) kiln.

4,458.—SLIDING SASH WINDOWS: *G. Le Maistre.*—In sliding sashes made in accordance with this invention, into each stile or side of the sash frame is fitted a cast-iron or metal block, held by a metal plate screwed in position, and runners or rollers. This plate is drawn in or pressed outward by the action of a thumb screw, so that while the sash is capable of free sliding movement, it can be suspended at any convenient height.

4,712.—SEWER-PIPES: *H. L. Doulton.*—The pipes which are the subject of this patent are made mainly of a coarse and porous substance, corrugated or fluted so as to cause the cohesion of an impervious lining of inner tubing.

14,975.—CHIMNEY-POTS: *F. J. Orwin.*—This patent refers to what is called the "Dice-box Chimney-pot," and takes its name from an appliance of that shape fitted to the top of the pot, the sides of which serve to deflect the wind and prevent down-draught.

NEW APPLICATIONS FOR PATENTS.

February 23.—3,237, M. Pickett and T. Collins, Rotary Sash Centre Fittings and Fixings.

February 24.—3,276, R. Whitaker, Wood and other Screws.—3,299, J. Prentice and others, Door-handles.—3,309, E. and A. Cocks, Flushing by Syphonage.—3,312, P. Bywater, Rollers or Wheels applied to Planes for planing wood, &c.—3,326, A. Pochin, Roadways, Pavements, &c.—3,351, R. Coursen, Plaster Slabs.—3,353, A. Trancombe, Slow Combustion Fire-stoves.—3,369, W. Moore, Water-closets.

February 25.—3,408, F. Wright and F. Woolstone, Disinfecting the Pans, Traps, and Drains of Water-closets.—3,419, W. Munns, Scroll Sawing-machine.—3,441. F. Smith, Cap or Terminal for Ventilators.

February 26.—3,457, W. and E. Bracewell, Flooring Cramp.—3,458, C. Spinks, Trapper Plane for turning wood from the square.—3,459, J. Hamilton, Fire-grates.—3,528, J. Manwell, Piles and Pile-driving.

February 27.—3,550, W. Barns and J. Cockburn, Wheelbarrows.—3,555, W. Thompson, Concrete-mixing Machines.—3,558, J. Barlow, Glazing.—3,580, T. Helliwell, Glazing Tar or Astragal.—3,595. W. Holbrook, Draught-preventer for doors.—3,602, H. & A. Denton, Bolts for Doors and Gates.—3,610, A. Steele and W. Cunningham, Jun., Stoves or Fire-grates.—3,616, W. and E. Lawrence, Portable Ceiling for Temporary Structures.

February 28.—3,637, T. Brown, Ventilators for House-drains.

PROVISIONAL SPECIFICATIONS ACCEPTED.

18,139, W. Adamson, Ventilating and Damp-resisting Brick.—18,667, H. Heiland and J. Kaufmann, Scaffolding.—20,908, J. Biggs and J. Allen, Flushing Cisterns.—538, E. & E. Kerry, Burglar Cheater and Draught Excluder.—591, E. Goupel, Construction of Houses.—599, A. Boult, Draught Excluders.—813, T. Ure, Sanitary Apparatus for Water Closets, &c.—1,095, F. Jackson, Stoves and Fireplaces.—1,213, R. Pope and W. May, Sash-cord Fastener.—1,367, R. Cosslett, Flush Cisterns, &c.—1,435, W. Bodin, Flushing Apparatus.—1,449, A. Ward, Fireproof Floors, &c.—1,469, E. Leon, Water-closets.—1,553, W. Jackson, Decorated Door-panels.—2,647, A. Lawrence, Moulding Artificial Stone Paving Slabs.—2,694, D. White, "Filler" used in French Polishing.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to Opposition for Two Months.

6,265, C. Orr, Door-closing Apparatus.—12,508, F. Pescetto, Flushing Apparatus.—17,668, J. Clarkson, Sash-pulleys for Windows.—19,966, J. Wallace, Boilers of Kitchen Ranges.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

MARCH 2.—By *Walter Hall:* 15, Bury-st., Bloomsbury, u.t. 46 yrs. g.r. 9*l.*, r. 192*l.*, 1,340*l.*; 17, Bury-st., u.t. 72 yrs., g.r. 16*l.*, r. 182*l.*, 1,400*l.*; 9, Sherriff-rd., West Hampstead, f., 970*l.*; 1, Morris-rd., Poplar, f., r. 33*l.*, 390; 2 to 6, Morris-rd., f.. r. 117*l.*, 1,110*l.*; f. house and wheelwright's shop in rear, r. 40*l.*, 505*l.*; the goodwill of 73, Theobald's-rd., Holborn, u.t. 21 yrs., 150*l.*

MARCH 3.—By *H. J. Bromley:* 1 to 8, Bell-green, Sydenham, u.t. 11 yrs., g.r. 8*l.*, r. 124*l.*, 355*l.*—By *Jones, Lang, & Co.:* No. 111, Newington Butts, f., area 3,000 ft., 1,100*l.*—By *Chesterton & Sons:* 48 and 50, Hampden-st., Paddington, u.t. 58 yrs., g.r. 10*l.*, 550*l.*

MARCH 4.—By *T. B. Westacott:* i.g.r. of 30*l.*, u.t. 33 yrs., g.r. 10*l.*, Camden Town, 300*l.*; i.g.r. of 63*l.*, u.t. 76 yrs., g.r. 11*l.*, Uxbridge-rd., 1,020*l.*; 197, Junction-rd., Upper Holloway, u.t. 65 yrs., g.r. 4*l.*, 400*l.*—By *J. Bott:* 36 to 42 even, Kender-st., New Cross, f., r. 124*l.* 16s., 1,350*l.*

MARCH 5.—By *Gough & Dove:* 47, Osnaburgh-street, Regent's Pk., u.t. 32 yrs., g.r. 10*l.*, r. 65*l.*, 530*l.*; 27, High-st., Camden Town, u.t. 39 yrs., g.r. 30*l.*, r. 90*l.*, 520*l.*; 71, High-st., u.t. 7¾ yrs., g.r. 40*l.*, r. 94*l.*, 200*l.*—By *Beadel & Co.:* The f. residence, "Upton House," Watford, and 7a. 0r. 19p., 6,500*l.*—By *Newbon & Co.:* f. house and shop, High-rd., Clapton, r. 60*l.* p.a., 1,570*l.*; 10, Kildare-gardens, Bayswater, u.t. 60 yrs., g.r. 5*l.*, r. 80*l.*, 1,000*l.*; 100, Star-st., Edgware-rd., u.t. 30 yrs., g.r. 6*l.* 6s., r. 60*l.* 8s., 560*l.*—By *H. E. Trafford:* 32, Bromley-st., Stepney, u.t. 18 yrs., g.r. 2*l.*, 190*l.*; 8, 9, and 10, First Avenue-rd., Leytonstone, u.t. 76 yrs., g.r. 7*l.* 10s., 210*l.*—By *Messrs. Cronk:* 26, Cumberland-ter., Regent's Pk., u.t. 34 yrs., g.r. 42*l.*, 1,280*l.*

MARCH 6.—By *Randall, Beard & Baker:* 9 to 17 (odd), Trinity-rd., Finchley, and a plot of land, f., 1,150*l.*; 30 and 32, Eleanor-rd., Hackney, u.t. 53 yrs., g.r. 7*l.*, 375*l.*

[*Contractions used in these lists.*—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.]

PRICES CURRENT OF MATERIALS.

TIMBER.		
Greenheart, B.G.	ton	6/10/0 7/15/0
Teak, E.I.	load	8/10/0 14/0/0
Sequoia, U.S.	ft.cu.	2/3 3/0
Ash, Canada	load	2/10/0 4/5/0
Birch, do.		2/5/0 4/5/0
Elm, do.		3/10/0 4/15/0
Fir, Dantsic, &c.		2/0/0 3/15/0
Oak, do.		2/10/0 4/10/0
Canada		4/17/6 6/10/0
Pine, Canada red		2/10/0 3/10/0
Do. yellow		2/0/0 5/10/0
Lath, D'ntsic, fath		5/0/0. 6/0/0
St. Petersburg		5/0/0 7/0/0
Deals, Finland, 2nd & 1st std		100 7/0/0 10/0/0
Do, 4th & 3rd		7/0/0 8/0/0
Do. Riga		6/0/0 7/10/0
St. Petersburg, 1st yellow		9/0/0 14/0/0
Do. 2nd yellow		8/0/0 9/0/0
Do. white		6/10/0 10/0/0
Swedish		6/10/0 15/0/0
White Sea		8/0/0 16/10/0
Canada, Pine 1st		13/0/0 24/0/0
Do. do. 2nd		9/0/0 15/10/0
Do. do. 3rd, &c.		6/10/0 10/0/0
Do. Spruce, 1st		8/10/0 10/10/0
Do. do. 3rd & 2nd		6/0/0 7/10/0
New Brunswick		5/0/0 7/0/0
Battens, all kinds		3/10/0 15/10/0
Flooring Boards, sq., 1 in. prep. 1st		0/10/0 0/14/0
Do. 2nd		0/9/0 0/10/6
Other qualities		0/5/0 0/7/6
Cedar, Cuba	ft.	/4 /4½
Honduras, &c.		/4 /4½
Mahogany, Cuba.		/4½ /6½
St. Domingo, cargo av		/4½ /6½
Mexican do. do		/4½ /5½
Tobasco do. do		/5½ /7
Honduras do.		/5½ /6½
Box, Turkey	ton	4/0/0 13/0/0
Rose, Rio		10/0/0 20/0/0
Bahia		9/0/0 18/0/0

TIMBER (*continued*).		
Satin, St. Domingo	ft.	0/0/10 0/1/3
Porto Rico		0/0/9 0/1/6
Walnut, Italian		0/0/3½ 0/0/7
METALS.		
IRON—Bar, Welsh, in London	ton	6/5/0 6/15/0
Do. do. at works in Wales		5/15/0 6/5/0
Do. Staffordshire, in London		6/5/0 7/0/0
COPPER—British, cake and ingot		56/0/0 57/0/0
Best selected		59/0/0 60/0/0
Sheets, strong		66/0/0 0/0/0
Chili, bars		52/10/0 0/0/0
YELLOW METAL	lb.	0/0/6 0/0/6½
LEAD—Pig, Spanish	ton	12/10/0 0/0/0
English, com. brands		12/11/3 12/12/6
Sheet, English, 3 lbs. per sq. ft. and upwards		14/5/0 0/0/0
Pipe		14/15/0 0/0/0
ZINC—English sheet	ton	27/3/0 0/0/0
Vieille Montagne		27/3/0 0/0/0
TIN—Straits		90/10/0 0/0/0
Australian		90/15/0 0/0/0
English Ingots		94/10/0 0/0/0
OILS.		
Linseed	ton	21/12/6 22/5/0
Cocoanut, Cochin		36/0/0 0/0/0
Do. Ceylon		28/10/0 29/0/0
Palm, Lagos		25/10/0 0/0/0
Rapeseed, English pale		29/5/0 29/10/0
Do. brown		28/0/0 0/0/0
Cottonseed ref.		19/10/0 0/0/0
Oleine		21/15/0 24/0/0
Lubricating, U.S.		6/0/0 7/0/0
Do. refined		7/10/0 12/0/0
TAR—Stockholm	barrel	1/1/6 1/2/0
Archangel		0/14/6 0/0/0

TENDERS.

[Communications for insertion under this heading must reach us *not later than* 12 *noon on Thursdays.*]

ABERDARE JUNCTION.—For the erection of fifty houses, for the Ynysfeirig Building Club. Mr. Arthur O. Evans, architect, Town-hall, Pontypridd :—

	No. 1 House.	No. 2 House.
Gradwell	£177 0 0 each	£189 15 0 each
Turner & Sons	138 0 0 ,,	153 0 0 ,,
Jno. Lewis, Nelson, Treharris, R.S.O.	139 0 0 ,,	149 0 0 ,,
Osborne & Co., East Grinstead	126 0 0 ,,	139 0 0 ,,

BARRY (Glamorganshire).—For the erection of fifty-seven houses and two shops in Park-crescent and Gain-street, for the Park (Barry Dock) Building Company, Limited. Mr. W. H. Dashwood Caple, architect, 1, St. John's-square, Cardiff. Quantities by the architect :—

Stephens, Bastow, & Co.	£26,799 0 0
D. C. Jones & Co.	25,487 0 0
Reed, Blight, & Co., Limited	24,499 0 0
Jenkins & Arnold	24,440 10 0
Alfred Elliott	20,614 0 0
David Davies	20,149 0 0
C. Shepherd & Son, Cardiff (accepted)	19,990 0 0

BOURNEMOUTH.—For new engine and boiler-houses in connexion with the sea-water scheme, contract No. 4, for the Bournemouth Town Council. Mr. F. W. Lacey, Borough Engineer and Surveyor :—

J. W. Luca. £1,018 | Jos. White, Bournemouth*.. £875
* Accepted.

BOURNEMOUTH.—For store under Bournemouth Pier (west side), for the Bournemouth Town Council. Mr. F. W. Lacey, Borough Engineer and Surveyor :—

Jos. White	£275 0 0
F. Hoare & Son, Bournemouth (accepted)	178 10 0

BRISTOL.—For the construction of sewers, in Soundwell and Chequers-road, St. George, Bristol, for the St. George Urban Sanitary Authority. Mr. T. L. Lewis, C.E., Engineer and Surveyor, Parochial Offices, St. George, Bristol :—

G. Griffin £385 0 | I. Britton, St. George* .. £151 0
W. Thomas 275 6 | * Accepted.
[Engineer's estimate, £259. 16s. 4d].

BURSLEDON (Hants).—For alterations and additions to "The New Inn," Bursledon, for Messrs. Strong & Co. Messrs. W. H. Mitchell, Son, & Gutteridge, architects, Southampton :—

W. H. Chapman	£188 0 0
Stevens & Co., Southampton (accepted)	175 0 0

BURTON-UPON-TRENT.—For the erection of a retort house, &c., at the gas works, for the Town Council. Mr. F. L. Ransdn, Engineer, Gas Works, Burton-upon-Trent :—

John Varlow	£2,028 10 9
Hodson & Son	1,850 2 4
Chamberlain Bros.	1,598 18 4
Hy. Willcock, Wolverhampton (accepted)	1,468 15 7
Walker & Son	1,447 18 6
Geo. Hodges, Burton-on-Trent (withdrawn)	1,317 13 6

CHERTSEY.—For additions and alterations to Pyrcroft House, Chertsey, Surrey, for Mr. E. Williams Snell. Mr. Edgar H. Selby, architect, 26, Craven-street, Strand, W.C. :—

H. G. Nesmyth, Chertsey (accepted) £245 0 0

EASTLEIGH.—For the erection of house and offices at Allbrook, near Eastleigh, Hants, for Mr. Enos Coombs. Messrs. W. H. Mitchell, Son, & Gutteridge, architects, Southampton :—

Stevens, H., & Co. £3,293	Hammerton & White £2,843
Fielder & Co. 3,120	F. H. Kingerlee, Oxford* 2,747
W. R. Light & Co. 2,916	* Accepted.

EASTLEIGH.—For the erection of workman's Institute and Club House, for the use of the employés of the London & South-Western Railway Company. Messrs. W. H. Mitchell, Son, & Gutteridge, architects, Southampton :—

Jonas Nichols, Southampton (accepted) £2,700 0 0

ELLAND.—For the erection of a warehouse and other premises at the Norton Mills, for Mr. James Casson. Messrs. Horsfall & Williams, architects, Halifax :—

Mason, Geo. Readyough, Elland	£579 0 0
Joiner, J. E. Crouther, Elland	236 10 0
Plumber, Joseph Aspinall, Elland	85 0 0
Slater, Rushworth & Firth, New Bank, Halifax	98 10 0
Ironfounder, James Mackrell, Elland	23 17 0

GLOUCESTER.—For re-building No. 16, Eastgate (exclusive of ironmongery, ironwork, and terra-cotta), for Messrs. H. T. Theobald & Co. Mr. J. Fletcher Trew, architect, 12, Clarence-street, Gloucester :—

Allard £488 | Freeman & Jones £434
Tream & Son 446 | E. Clutterbuck, Gloucester* 386
* Accepted.

GREENWICH.—For re-building the "King's Arms," King William street. Mr. G. G. Tucker, architect :—

Ling	£2,304	Robson	£2,169
Spencer	2,225	Heywood	2,146
Toms	2,193	Holloway	2,143
Jerrard	2,177	Godfrey	2,097

HEREFORD.—For additions to the New Weir Lodge, near Hereford, for the Hon. Mrs. Griffiths. Mr. G. H. Goodsell, architect :—

R. Andrews & Son £170 | James Lloyd, Hereford* £120
* Accepted.

HOPE (Flint).—For the construction of a farmhouse and buildings, for the Chester Municipal Charities' Trustees. Messrs. John Whalley & Son, architects and surveyors, Pepper-street, Chester. Quantities supplied :—

W. H. Bleakley & Co.	£1,200 0 0	E. O. Probert	£981 14 4
J. Lee & Son	1,155 3 4	I & F. Kitchen	897 0 0
R. Jones	998 7 0	H. Sumpter	838 0 0
J. Shaw	996 6 0	T. Williams & Co., Buckley, Flints*	830 0 0
T. Browne	990 0 0		

* Provisionally accepted, subject to the approval of the Charity Commissioners.

KINSON (Dorset).—For additions to the board school, for the Kinson School Board. Mr. H. F. J. Barnes, architect, Poole :—

Street (too late) £315 16 0 | G. Baker, Wimborne*. £254 0 0
A. Saunders 272 10 0 | * Accepted.

LEEDS.—Accepted for the erection of a detached house and stabling at Armley. Mr. C. H. Thornton, architect, 3, Park-row, Leeds :—

Brick and Stone Work.—James Binns, Woodhouse.
Joiner.—Geo. Abbott, Armley.
Slaters.—Watson & Wormald, Leeds.
Plumbers.—J. W. Hemsley & Son, Leeds,
Plasterers.—Brown & Brook, Armley.
Total, 750*l.*

LONDON.—For making up certain roads in Fulham, viz., Lillie-road, Secs. III., IV., and V., Normand-road, Sec. I., Biscay-road Sec. II., and Comeragh-road, Sec. II., for the Vestry of Fulham. Mr. W. Sykes, New Streets Surveyor :—

	Lillie-road (III.)				Lillie-road (IV.)				Lillie-road (V.)				Normand-road. Sec. I.				Biscay-road. Sec. II.				Comeragh-road. Sec. II.			
	R.	Y.	V.	I.	R.	Y.	V.	I.	R.	Y.	V.	I.	R.	Y.	V.	I.	R.	Y.	V.	I.	R.	Y.	V.	I.
Nowell & Robson	385	144	126	112	252	168	144	125	599	449	384	333	110	99	85	74	798	422	362	315	416	91	84	78
Townes & Wimpey	405	150	132	119	264	175	150	132	630	460	400	355	115	103	89	78	840	435	375	332	436	94	87	81
G. Bell	395	152	131	127	265	200	164	157	529	442	364	349	129	104	86	82	798	439	364	349	352	125	115	112
H. J. Greenham	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	740	380	333	305	365	92	299	285
Imperial Stone Co.	—	—	—	134	—	—	—	166	—	—	—	299	—	—	—	103	—	—	—	418	—	—	—	123
Patent Victoria Stone Co.	—	—	8d. per ft.	—	—	—	8d. per ft.	—	—	—	8d. per ft.	—	—	—	8d. per ft.	—	—	—	8d. per ft.	—	—	—	8d. per ft.	—

R.—All work except the actual paving.
Y.—York Stone paving.
V.—Victoria Stone paving.
I.—Imperial Stone paving.

LEYTON.—For the erection of "Ruckholts" schools, for 1,361 children, for the Leyton School Board. Messrs. J. T. Newman & Jacques, Architects to the Board. Quantities by Messrs. R. L. Curtis & Son :—

Holland	£15,286	Morter	£14,596
Scott	15,120	Coxhead	14,320
Catley	15,010	Gregar*	14,230
Reed	14,793		

* Accepted subject to the approval of the Education Department.

LEYTON.—For paving playgrounds at the Mayville-road Schools, for the Leyton School Board. Messrs. J. T. Newman & Jacques, 2, Fen-court, E.C., Architects to the Board :—

Concrete Paving.

Patent Victoria Stone Co. .. £934 | Bradford & Hancock 740

Asphalte.

Lawford & Co. £1,216 | Grindley & Co. £590
Lawford & Co. (alternative) 869 |

Tar Paving.

Jackson £600 | Lawford & Co. £570
Grindley & Co. 590 | Hobman & Co. (accepted) .. 459

LONDON.—For escape staircases at the infirmary, St. John's-hill, New Wandsworth, for the Guardians. Mr. Thos. W. Aldwinckle, architect, 2, East India-avenue, Leadenhall-street, E.C. Quantities supplied :—

J. F. Cameke & Sons	£1,950	W. Johnson	£1,490
St. Pancras Ironwork Co.	1,746	C. Smith & Sons	1,467
Baker	1,677	R. G. Battley	1,397
H. Young & Co.	1,575	Ceres Iron Works	1,309
J. Stone	1,566	R. Crane	1,300
T. Potter & Sons	1,530	J. Mills	1,294

LONDON.—For laying about 245 ft. of 12-in. pipe sewer, 482 ft. of 15-in. pipe sewer, and 554 ft. of 18-in pipe sewer, in Crabtree-lane, for the Vestry of the parish of Fulham. Mr. James P. Norrington, Surveyor :—

Thos. Adams	£937	R. Mullett	£785
J. H. Neave	848	G. Bell	779
Henry Lee	797	J. Mears	777

LONDON.—For the re-erection of No. 266, Mile End-road, E., for Mr. W. H. P. Barnes. Messrs. Hammack & Lambert, architects and surveyors, 59, Bishopsgate-street, E.C. :—

Charles Cox	£1,997	Ansby & Horner	£1,783
J. Hearle & Son	1,980	F. & F. J. Wood	1,736

LONDON.—For additions, &c., to premises, No. 30, High-street, Hampstead, for Mr. Edward Elliott. Mr. Albert E. Pridmore, architect, 2, Broad-street-buildings, E.C. :—

Burford & Son	£527	W. J. Wiltshire	£472
Burman & Sons	525	Taylor & son	445
W. Evans	501	King & Co.	404

LONDON.—For the erection of the Avenue Strict Baptist Chapel, Pratt-street, Camden Town. Mr. Robt. Beale, architect, 9, Victoria-street, S.W. :—

Gould & Brand	£1,783	P. Hart (too late)	£1,582
Scrivener & Co.	1,755	C. E. Skinner*	1,580
E. Toms	1,634		

* Accepted subject to 80*l.* deduction for heating.

LONDON.—For sanitary and decorative renewals and repairs at South Kensington, under the direction of Messrs. Morley & Letts, surveyors, 185, Earl's Court-road, S.W. :—

31, *Pengwern-road.*—James Whitaker, Earl's Court-road £166
41, *Pengwern-road.*—Barlow & Roberts, Aldermanbury 139
57 and 63, *Nevern-square.*—James Rugg, Earl's Court-road 45
206, *Earl's Court-road.*—James Whitaker, Earl's Court-road 192
8, *Pengwern-road.*—F. Holdstock, Richmond-road 170

LONDON.—For alterations to studio at 20, Upper Baker-street, Marylebone, for Mr. Alfred Ellis. Mr. T. Durrans, architect :—

G. Head & Co. £180 | H. C. Clifton £150
J. Edgar 167 |

LONDON—For alterations at the "Black Horse," Haymarket, for Mr. W. Freeman Thomas. Mr. Edward Clark, architect, 47, Strand, W.C. Quantities by the architect :—

T. L. Green	£425	J. Anley	£337
Patman & Fotheringham	397	Whitehead & Co.*	305
Wilkinson Bros.	396	* Accepted.	

LONDON.—For alterations and additions at "The Bull's Head," Wood-street, Cheapside, E.C., for Mr. James Page Geary. Mr. Edward Clark, architect, 47, Strand, W.C. Quantities supplied by the architect :—

G. M. Taylor £920 | J. Anley £766
T. L. Green 793 | Whitehead & Co.* 693
* Amended and accepted.

LONDON. — For alterations and decorations at "The Royal Standard" Pimlico, S.W., for Mr. Richard Wake. Mr. Edward Clark, architect, 47, Strand, W.C. Quantities supplied by the architect :—

Burman & Sons £520 | Whitehead & Co. £450
J. Anley 490 | T. L. Green (accepted) 429

LONDON.—For alterations and additions at No. 85, Arlington-street, New North-road, N., for Messrs. Baxeres & Co. Mr. Edward Clark, architect, 47, Strand, W.C. Quantities by the architect :—

J. Anley (accepted) £507 0 0
[No competition.]

LONDON.—For alterations and additions to "The South London Palace," London-road, S.E., for Mrs. J. J. Poole. Mr. Edward Clark, architect, 47, Strand, W.C. Quantities supplied by the architect :—

T. L. Green	£2,993	J. Anley	£2,899
Holliday & Greenwood	2,950	Patman & Fotheringham	2,863
Gould & Brand	2,949	Whitehead & Co.	2 790
E. Toms	2,939		

LONDON.—For rebuilding "The Salisbury Tavern," Nos. 91 and 92, Strand, W.C., for Messrs. Geary & Sparks. Mr. Edward Clark, architect, 47, Strand, W.C. Quantities by Messrs. New & Son, 62, George-street, Portman-square, W. :—

G. Ansell	£5,425	J. Anley	£5,026
Brass & Son	5,409	T. L. Green	4,983
Patman & Fotheringham	5,373	Whitehead & Co.	4,720
Holliday & Greenwood	5,249		

LONDON.—For making up and paving Caroline-place, Delaford-street, and Claybrooke-road, Sec. II., for the Vestry of Fulham. Mr. W. Sykes, New Streets Surveyor :—

	Caroline-place.			Delaford-street.				Claybrooke-road, Sec. II.			
	Y.	V.	I.	R.	Y.	V.	I.	R.	Y.	V.	I.
Victoria Stone Co.	—	350	—	—	—	282	—	—	—	150	—
Imperial Stone Co.	—	—	428	—	—	—	263	—	—	—	128
Nowell & Robson	580	—	504	718	322	—	262	335	170	—	138
T. Adams	613	584	541	698	357	344	289	315	179	167	143
G. Bell	625	565	545	761	385	339	323	385	188	165	157

R.—All work except the footway paving.
Y.—York Stone paving.
V.—Victoria Stone paving.
I.—Imperial Stone paving.

LONDON.—For alterations and additions to "The Stamford Arms," Stamford-street, S.E., for Mr. W. Field. Mr. Edward Clark, architect, 47, Strand, W.C. Quantities by the architect :—

Patrick & Son	£1,547	Spencer & Co.	£1,260
J. Anley	1,328	Whitehead & Co.	1,235
T. L. Green	1,287	J. Mills	1,215

LOXFORD (Essex).—For taking down and rebuilding bridge for the Essex County Council. Mr. Percy J. Sheldon, Engineer, Malmsbury House, South Woodford. Quantities by Mr. George Lamb, surveyor, Barking :—

W. R. Parker & Co.	£995 4 10	Archi. Ansell	£826 13 0
George Double	990 8 0	Frank Johnson	822 11 11
John J. Robson	984 19 3	R. Stroud	733 10 3
Arthur & Co.	941 0 0	Smith	701 0 0
Holme & King	871 9 0	W. Watson, Ilford, E.*	690 0 0
W. French	850 0 0	George Bell	669 0 0

* Accepted.

LYMINGTON.—For rebuilding the "Crown and Anchor" public-house, Lymington, Hants, for Messrs. Strong & Co. Messrs. W. H. Mitchell, Son, & Gutteridge, architects, Southampton :—

W. R. & C. Light	£950	H. Stevens & Co.	£865
F. Reeks	923	A. Wheeler, Lymington*	854
Thos. Rashley	895	* Accepted.	

MONTGOMERYSHIRE.—For alterations and additions to "Caerhowel," near Montgomery Station, for Colonel Harrison; and for new house at Llanfair-Caereinion, in the county of Montgomery, for Dr. Humphreys. Mr. W. H. Spaull, architect, Oswestry :—

	"Caerhowel."	Llanfair.
Tudor	£3,845	£1,759
Stephens, Bastow, & Co.	3,400	1,759
Jno. Evans	3,255	1,575
W. Bowdler	2,890	—
A. Watkin	2,739	1,500
W. H. Thomas*	2,489	1,670†

* Accepted. † Llanfair estimate to be reduced.

NENAGH (Ireland).—For works in connexion with the water-supply of the town (contracts 1 and 2), for the Guardians. Messrs. R. Gill & Son, 30, Castle-street, Nenagh, co. Tipperary :—

N. Williams	£6,941 0 0	Dixon	£6,556 0 0
Cunningham	6,878 19 5	E. Finn	5,750 0 0
Pursell	6,863 0 0	Driscoll, Glyn, co. Limerick*	5,484 0 0
Long	6,781 19 0	* Accepted conditionally.	
Simpson	6,694 11 0		

NORTHFLEET.—For building a chimney 150 ft. in height, for the MacIver Patents White Lead Company, Limited :—

G. Dickenson	£1,650 0 0	W. Neil, Turner-road, Burdett-road*	£1,056 0 0
A. Philby	1,539 0 0	G. E. Tournay†	953 17 0
C. Chornberton	1,275 0 0	Smith & Sons	851 18 6

* Accepted. † Withdrawn.

POTTER'S BAR.—For proposed billiard-room, "Heronfield," Potter's Bar, for Mr. D. Wallace. Messrs. W. G. Habershon & Fawckner, architects, 38, Bloomsbury-square, W.C. :—

Gregar	£874	Maides & Harper	£773
Climpson	860	Bentley	738
Kinninmont & Sons	804	Worboys	706
Rodwell	798	Willmott	675
Triggs	775		

RICHMOND (Surrey).—For additions to the laundry at the Richmond Workhouse, for the Richmond Board of Guardians. Quantities by Mr. Ed. Maynard, architect and surveyor, Richmond :—

Hill	£485	Sweet & Loder	£324
Reynolds & Co.	345	Hunt	293
Jarvis	325	Eldridge, Richmond*	288
Soole & Son	324	* Accepted.	

For Wrought-iron Work to Ditto.

Reynolds & Co.	£113 10 0
Summerscales, Keighley, Yorks (accepted)	95 0 0

[Surveyor's estimate for the whole, £400].

SHANGHAI (China).—For the supply of 12,500 tons of broken Soochow granite, 2,000 tons of sand, and 2,000 tons of broken bricks, delivered to the depôts of the Shanghai Municipal Council. Mr. Charles Mayne, Municipal Surveyor :—

	Broken Bricks. Per ton.	Large Granite. Per ton.	Ordinary Granite. Per ton.	Fine Granite. Per ton.	Sand. Per ton.
	s. d.	s. d.	s. d.	s. d.	s. d.
Yah Kee & Co.	1 10½	3 0½	4 2½	4 10½	3 8½
Joe & Ming Kee	2 1½	3 0½	3 10	4 10½	3 8½
Chee Tsun Yeang	1 10½	—	4 1½	4 9	3 8½
Lui Ying Dong	1 10½	3 0½	3 11½	4 7	3 7½
Ming Kee	1 7½*	2 4*	3 8½*	4 5½*	3 5*

* Accepted.

[The Municipal Surveyor, in sending us these particulars, says "The granite is of very good quality, and compares favourably with the home granites used for similar purposes."]

SOUTHAMPTON.—For fittings to the Southampton Branch of the Wilts and Dorset Bank. Messrs. W. H. Mitchell, Son, & Gutteridge architects, Southampton :—

D. W. Lewis, Southsea (accepted) £392 15 0

SOUTHAMPTON.—For the conversion of a private house, No. 23, Waterloo-place, Southampton, into shop and business premises for Mr William Dibben (labour only). Messrs. W. H. Mitchell, Son, & Gutteridge, architects, Southampton :—

Morgan, Isted, & Morgan	£160 0 0
A. Warden (accepted)	140 0 0

SOUTHEND (Essex). — For the erection of villa residences, Southend, for Mr. R. S. Frazer. Mr. E. Wright, architect :—

Munday & Co.	£2,388	Dobson	£2,180
Baker & Wiseman	2,245	A. Ansell	2,142
Dupont	2,215	Orfeur	2,090

[Architect's estimate, £2,100.]

STROUD GREEN.—For erecting new branch of the London and South-Western Bank, 11, Finden-terrace. Messrs. Truefitt & Truefitt, architects, 5, Bloomsbury-square, W.C. Quantities by Messrs. Morris Evans & Son :—

J. Hunt	£1,394	Lidstone	£1,276
R. D. Lunn & Sons	1,370	Wells	1,175
Bryen	1,340	G. E. Bryan & Son*	997
Davey	1,295	* Accepted.	

SUTTON (Herefordshire).—For the erection of garden and terrace walls, at Sutton Court. Mr. G. H. Godsell, architect :—

W. Bowers & Co.	£313 0	H. Welsh	£197
J. J. Davis	252 0	Lewis & Co., Hereford*	190
R. Andrews & Son	236 10	* Accepted.	

SWAY (Hants).—For the erection of new kitchen and other works at the Forest Heath Hotel, Sway. Messrs. W. H. Mitchell, Son, & Gutteridge, architects, Southampton :—

H. E. Rashley, Milford-on-Sea (accepted)	£200 0 0

TAUNTON.—For the erection of new school buildings and other works at Huish's School, for the Governors. Mr. J. Houghton Spencer, architect, 8, Hammet-street, Taunton :—

Cowlin & Son	£3,931	A. J Spiller	£3,011
G. H. Pollard	3,389	J. Mountstephens	2,950
W. Templeman	3,360	S. Derham, Trull*	2,729
J. Morse	3,020		

[Accepted, subject to certain modifications.]

TITLEY (Herefordshire).—For additions to Titley Court. Mr. G. H. Godsell, architect :—

Lewis & Co.	£165	J. J. Davis, Leominster*	£140
		* Accepted.	

TOTNES.—For the erection of an entrance-lodge, at Dundridge, for Mr. R. Harvey, J.P. Mr W. M. Tollit, architect, Totnes :—

W. Trevena	£563 0	Brook & Ash	£420 0
J. Cole	519 10	Farr Bros., West Alvington*	330 0
F. W. Vanstone	457 0	* Accepted.	
Rabbich & Brown	440 0		

TUNBRIDGE WELLS (Kent).—For the erection of ironing and drying rooms, with an additional story, &c., to the old Workhouse, and new Infants' Ward, for the Guardians of the Tonbridge Union. Mr. W. Oakley, architect, 36, Mount Pleasant, Tunbridge Wells. Quantities by Mr. Thos. Ladds, Tunbridge Wells :—

Edward G. Saxby	£3,223 9	Richard Avard	£2,463 0
James Longley & Co.	2,750 0	G. E. Wallis & Son	2,344 0
G. H. Denne & Son	2,740 0	G. J. Jones	2,296 17
J. Jarvis	2,708 0	G & F. Penn, Pembury (accepted)	2,257 19
Davis & Leaney	2,540 0		

WAKEFIELD.—For laying water-mains, with meter chambers and appurtenant works, in the township of Crofton and Walton, for the Union Rural Sanitary Authority. Mr Frank Massie, Engineer, Tetley House, Kirkgate, Wakefield. Quantities by Engineer :—

	Crofton.	Walton.
J. W. Fisher	£1,361 16 2	£1,182 7 4
F. Eyre	797 8 3	530 2 8
F. Fielding	652 17 3	475 14 11
Chas. Green	612 0 0	430 10 0
A. Ward	604 11 9	353 17 8
Snowden & Son	602 9 6	427 17 2
G. & T. Wilson	571 4 5	384 10 4
Brayshaw	569 8 4	386 11 6
Bullough & Co.	552 9 1	389 17 6
Robins & Thompson	527 5 11	333 7 7
J. Slonger	498 17 8	342 2 4
R. Malabar	451 18 2	312 10 4
Thos. & John Young	437 0 6	288 15 4
Wm. Doleman, Dewsbury*	428 4 2	291 13 0
Brooke & Logan†	402 14 1	278 14 2
J. & J. Aliffe‡	363 7 8	175 11 11

* Accepted for both. † Withdrawn. ‡ Informal.

WIDNES.—For the erection of a laundry, &c. (exclusive of drainage and concrete foundations), at the Fever Hospital, for the Local Board. Mr. John S. Sinclair, Surveyor, Town Hall, Widnes. Quantities by Surveyor :—

Sayce & Randle, Widnes (accepted)	£219

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Asphalte.—The Seyssel and Metallic Lava Asphalte Company (Mr. H. Glenn), Office, 42, Poultry, E.C.—The best and cheapest materials for damp courses, railway arches, warehouse floors, flat roofs, stables, cow-sheds, and milk-rooms, granaries, tun-rooms, and terraces. Asphalte Contractors to the Forth Bridge Co. [ADVT.

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22, Martin's-lane,
Cannon-street, E.C. [ADVT.

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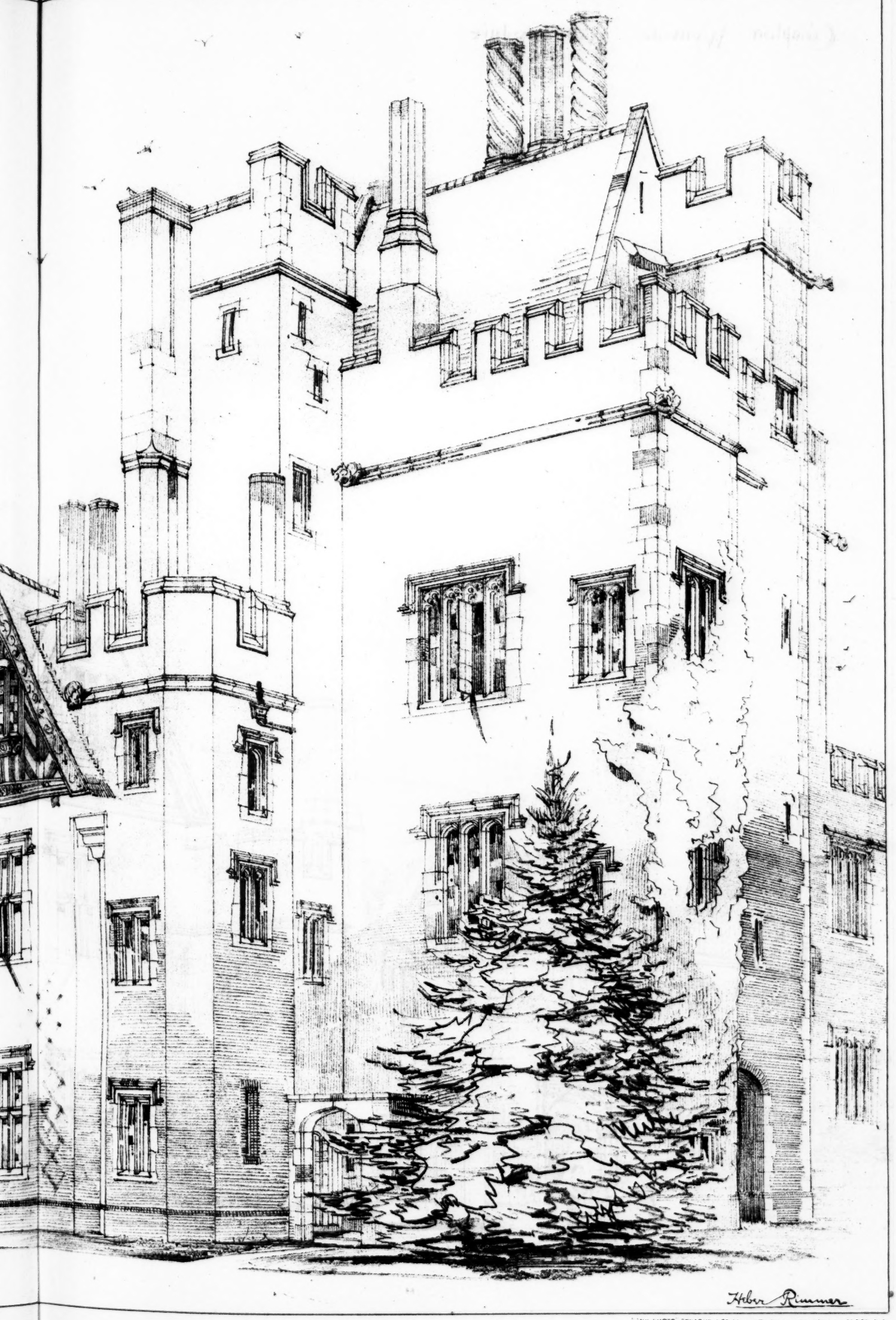
LIVERPOOL: 6 and 8 Hatton Garden.
GLASGOW: Peteshill-road.

Compton Wynyate Warwickshire

Awarded Silver Medal, R.I.B.A., 1891.



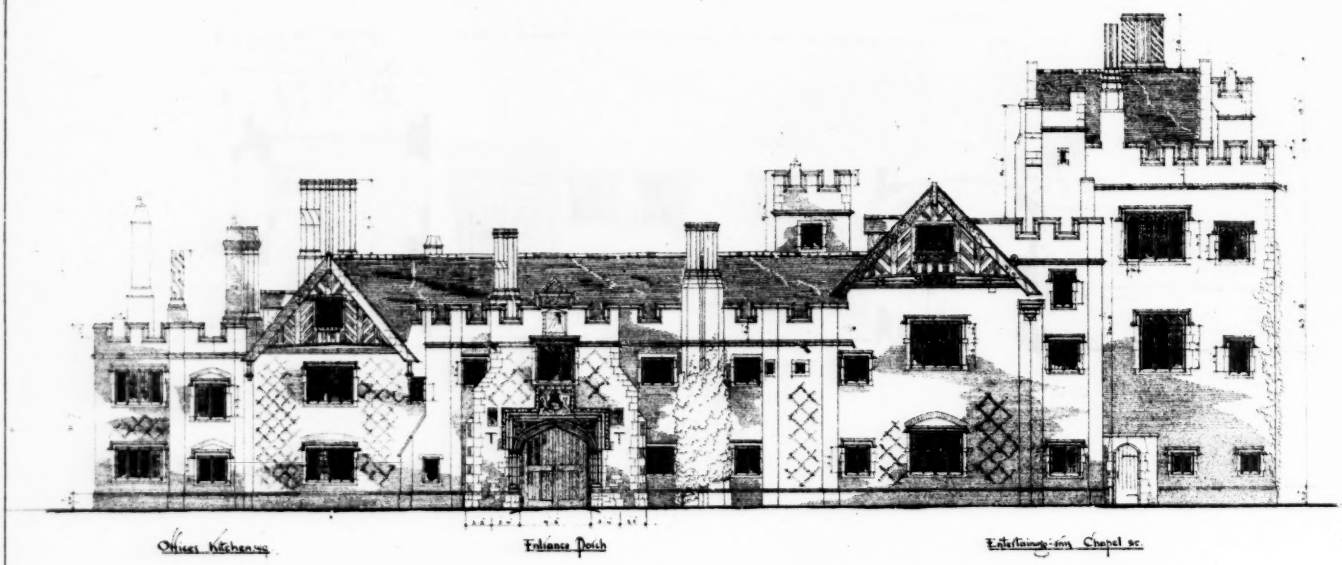
Heber Rimmer

INK-PHOTO SPRAGUE & Co 26 MARTINS LANE CANNON LONDON E.C.

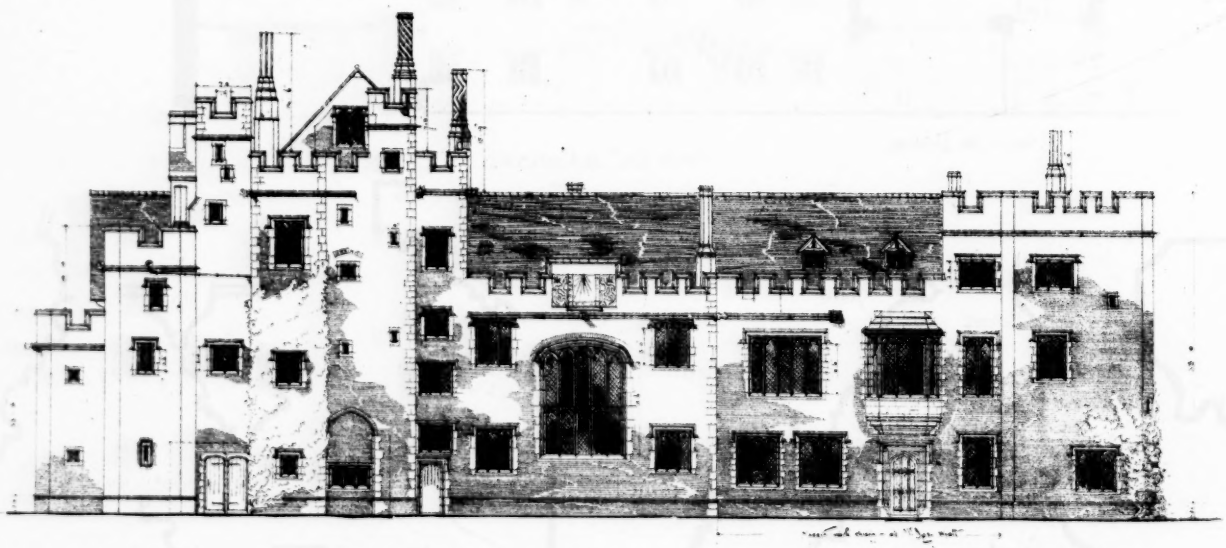
Compton Wynyate Warwickshire

Belonging to The Marquis of Northampton

Built by Sir W. Compton AD 1527 much of the materials evidently brought from Fulbrook Castle about that time contiguous Situated in a well wooded hollow near Edge Hill 4 & 10 miles from Banbury Station Materials red brick and yellow lime stone & stone dressings



West Elevation



Note The Portions marked in Dotted lines Edge Hill (on which length of this Plan)

South Elevation.

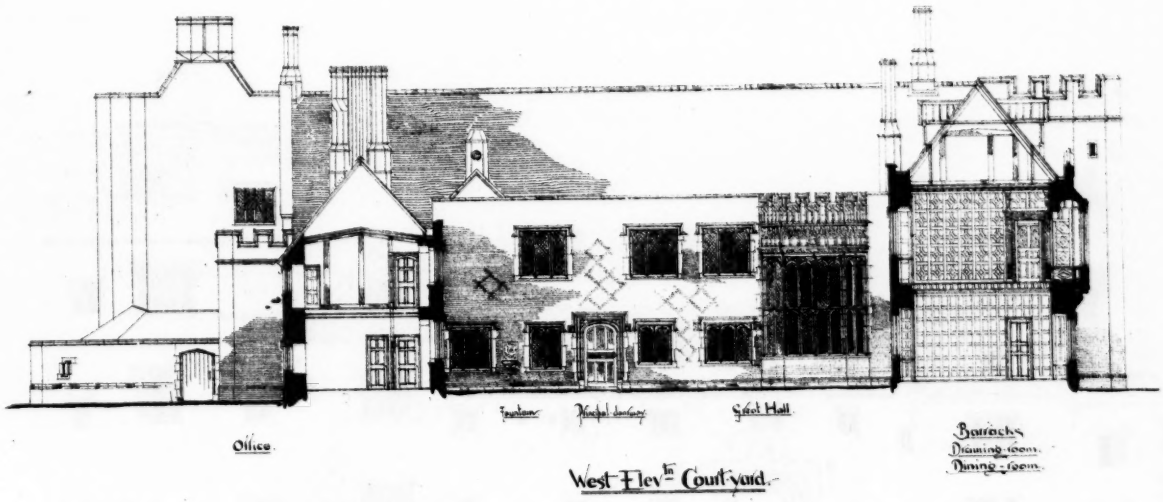
Scale of Feet

Fisher Rainmer

PHOTO-LITHO. SPRAGUE & Co. 22, MARTIN'S LANE, CANNON ST., LONDON, E.C.

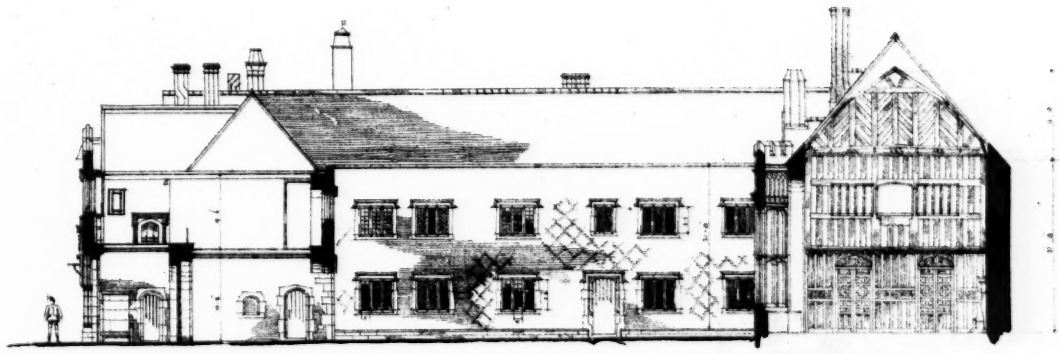
Awarded Silver Medal, R.I.B.A., 1891.

Compton Wynyate : Warwickshire



West Elev^n Court-yard.

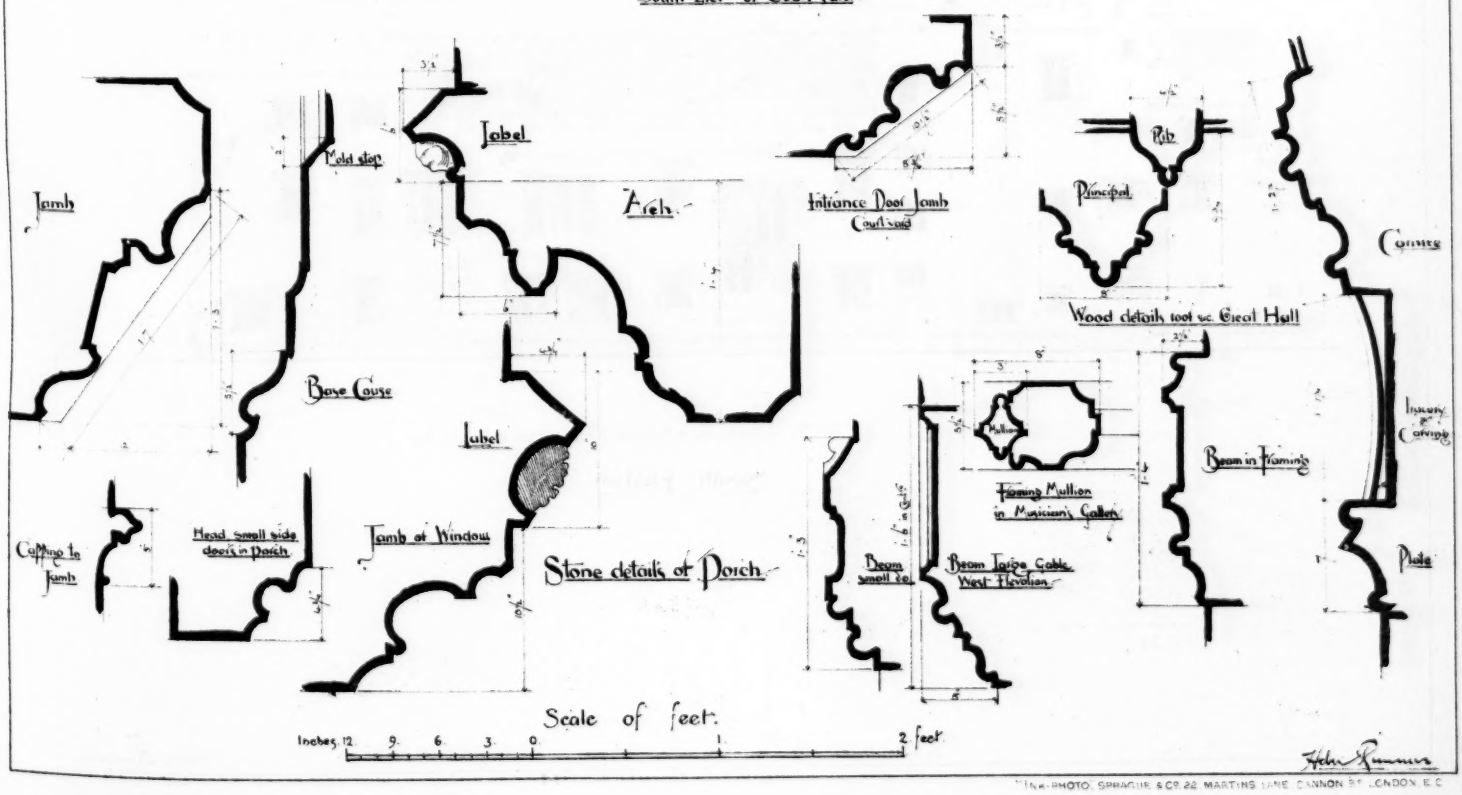
Scale of Feet.



Section thro Porch &c

South Elev^n of Court-yard

Great Hall.



Helen Rimmer

PHOTO. SPRAGUE & CO. 22 MARTINS LANE CANNON ST. LONDON. E.C.

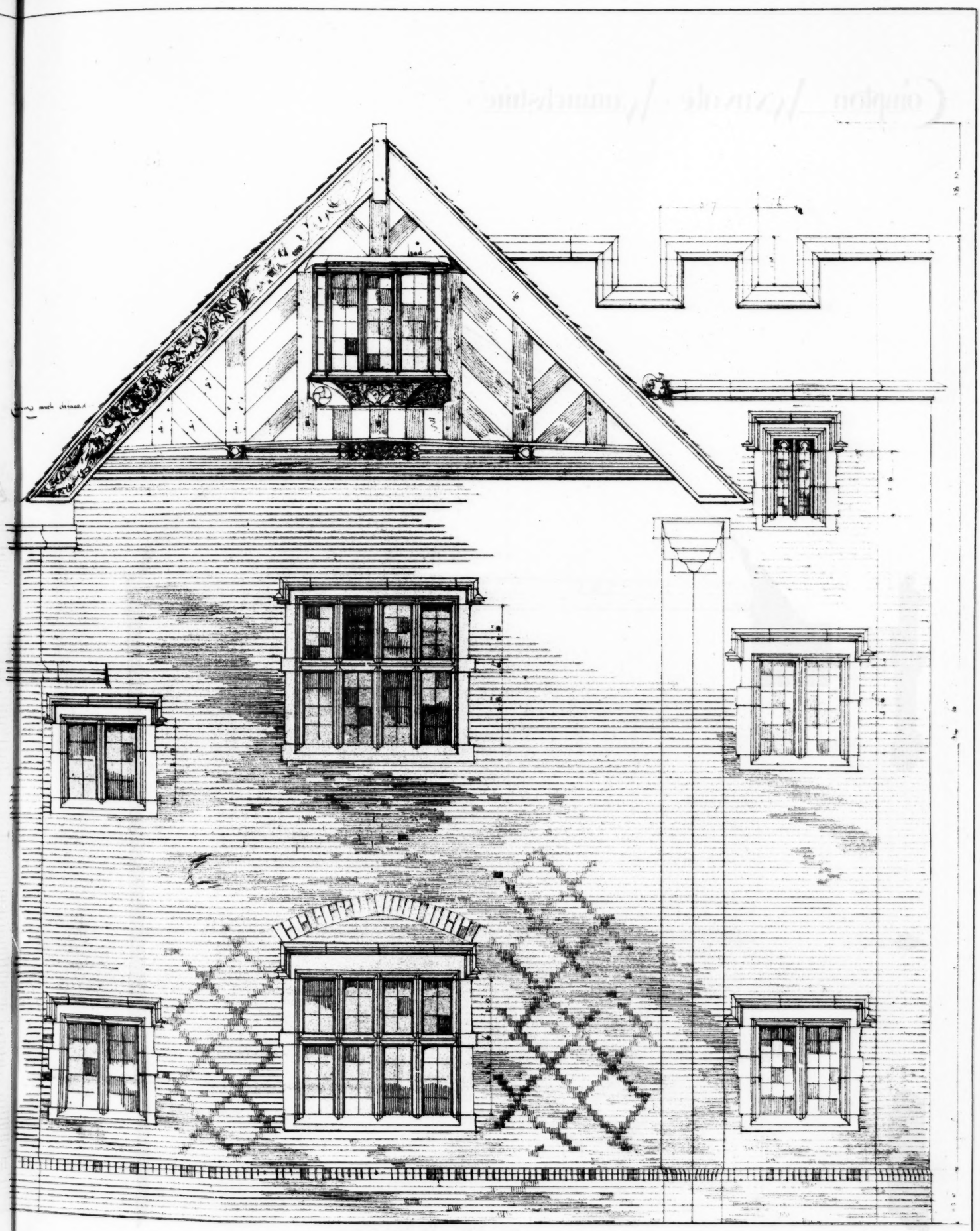
Awarded Silver Medal, R.I.B.A., 1891.

Compton Wynyate · Warwickshire ·

Bay.

End of Great Hall

Awarded Silver Medal, R.I.B.A., 1891.



Large Gable & Tower West Elevn

Weber Rummer

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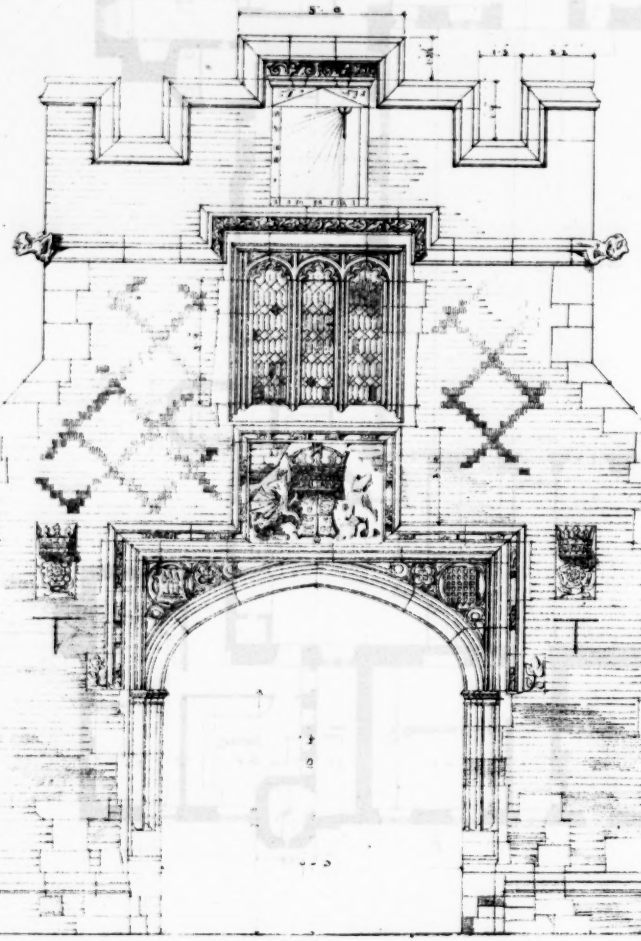
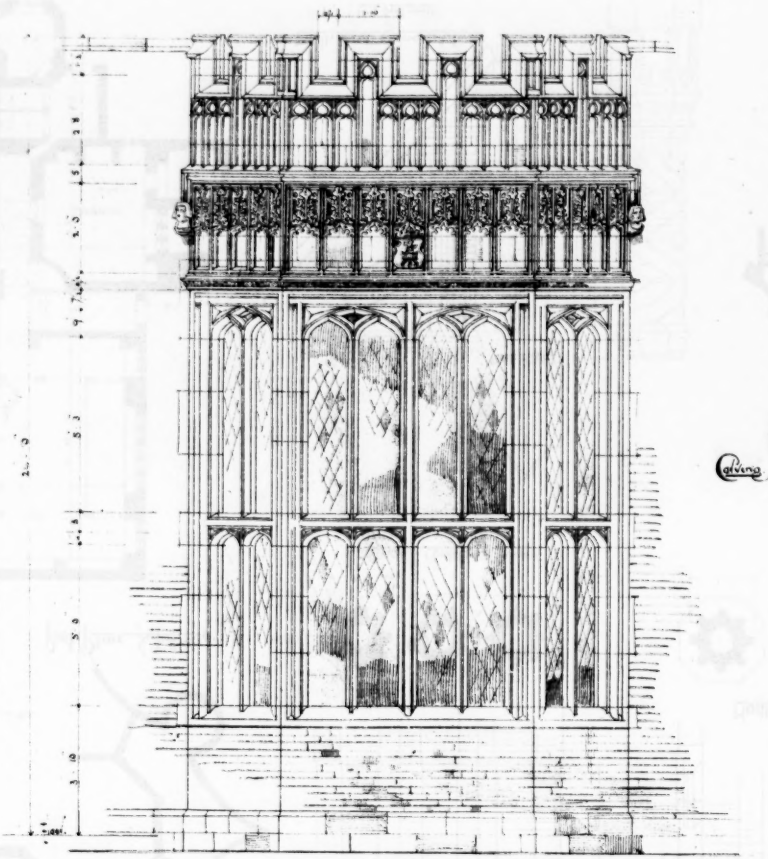
Compton Wynyate Warwickshire.

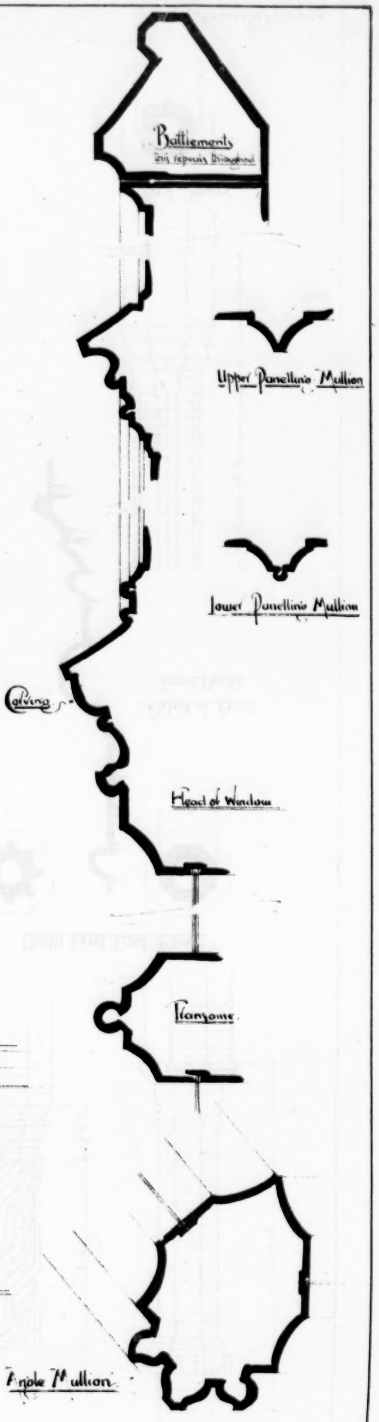


Porch ½ Inch Scale

Scale of Feet.

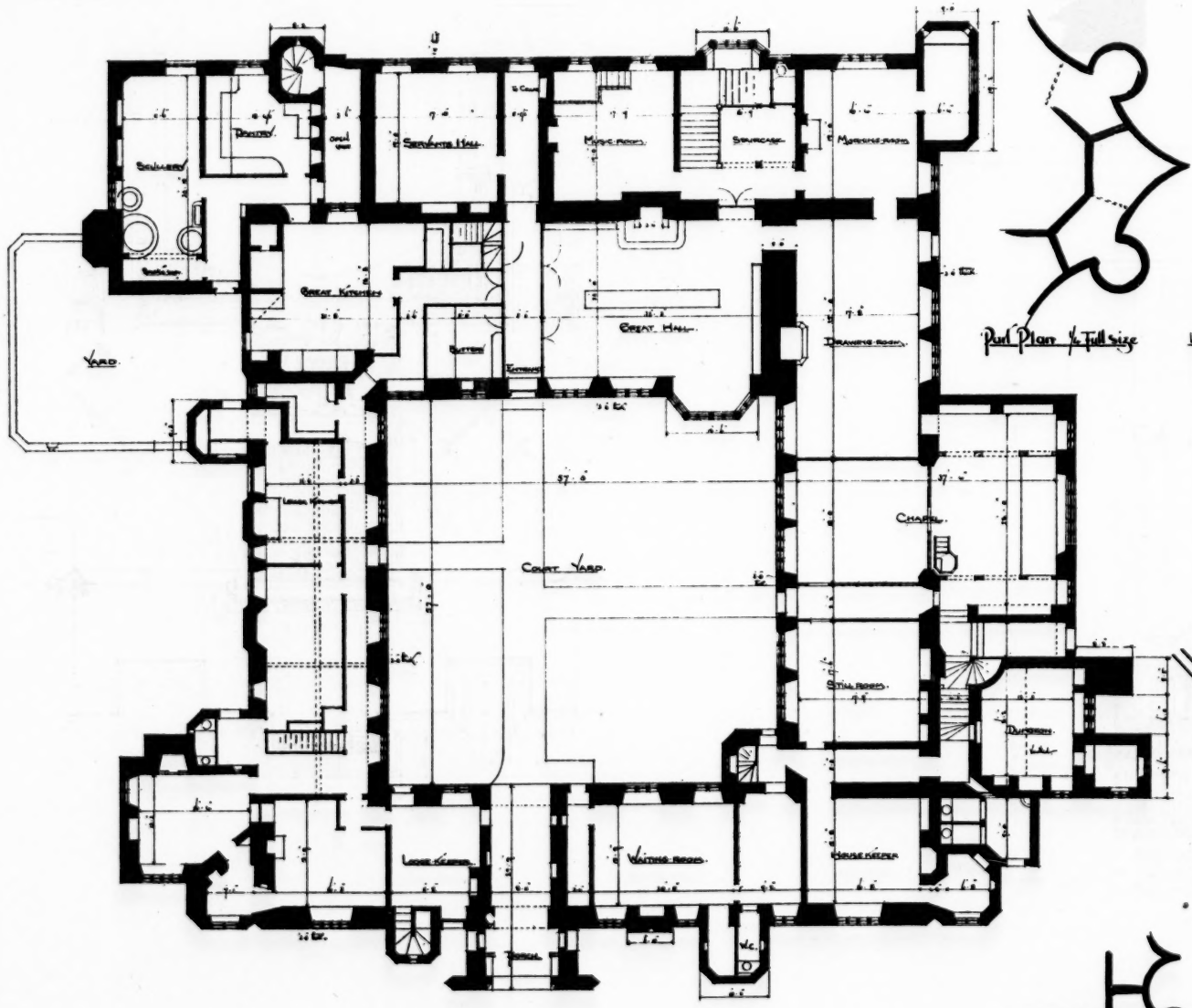


Elevation & Plan of Bay to Great Hall in Court yard



Awarded Silver Medal, R.I.B.A., 1891.

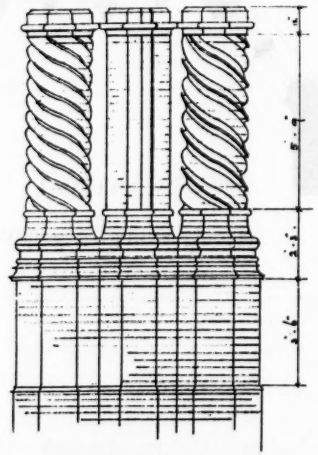
Compton Wynyate : Warwickshire.

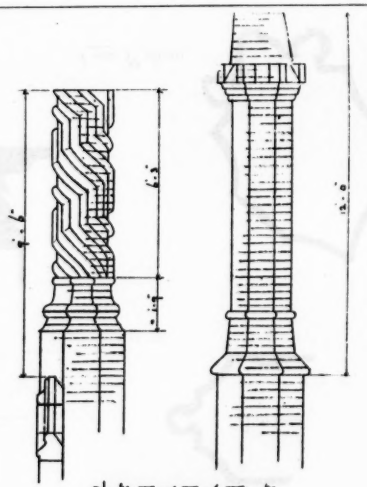


Ground Plan

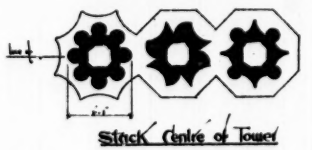
Scale of Feet

Part Plan ½ Full size

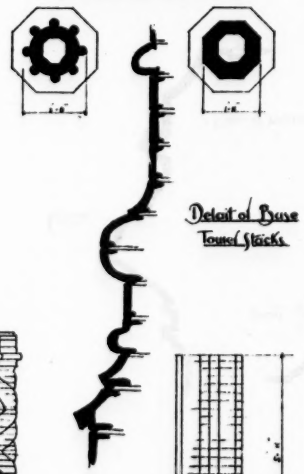




North East East Elevn.

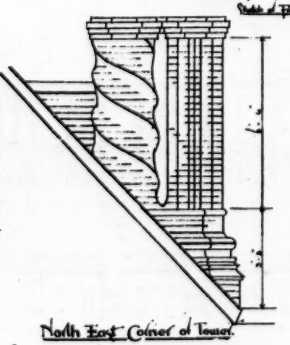


Stack Centre of Tower

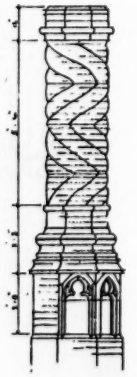


Detail of Base Tower Stacks

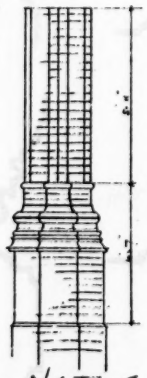
Plate of Finial



North East Corner of Tower.
(to Coat Yard)

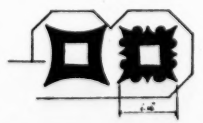


East Tower.



West Tower

Detail. ½ full size



Scale of Feet

Helen Rimmer

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